



# Nokia Service Router Linux

## Release 23.3

## Data Model Reference

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# 1 About this guide

This document describes the configuration and state data models available for the Nokia Service Router Linux (SR Linux).

**Note:**

This guide generically covers the current release and may contain some content that will be released in later maintenance loads. See the *SR Linux Release Notes*, for information about features supported in each load.

Configuration and command outputs shown in this guide are examples only; actual displays may differ depending on supported functionality and user configuration.

For more information about accessing and using the interfaces that support these data models, see the *SR Linux System Management Guide*.

## 2 Overview

This overview describes the structure of the configuration and state data models available for the Nokia Service Router Linux (SR Linux). It includes an introduction to the tree hierarchy and details how to interpret field descriptions.

### 2.1 Tree hierarchy

The tree hierarchy consists of branches that show the fields and parameters that are available. [Figure 1: Tree hierarchy example](#) shows a tree hierarchy example.

*Figure 1: Tree hierarchy example*

```

bfd
- network-instance string
- peer number
  - active-receive-interval
  - active-transmit-interval
  - async
    - last-packet-received
    - last-packet-transmitted
    - received-errored-packets
    - received-packets
    - transmitted-packets
    - up-transitions
  - failure-transitions
  - last-failure-time
  - local-address
  - local-diagnostic-code
  - oper-state
  - remote-address
  - remote-control-plane-independent
  - remote-diagnostic-code
  - remote-discriminator
  - remote-minimum-receive-interval
  - remote-multiplier
  - remote-session-state
  - session-state
  - subscribed-protocols
+ peers number
+ clear
+ statistics
  + peers number
    + clear
  + subinterface string
    + admin-state
    + desired-minimum-transmit-interval
    + detection-multiplier
    + minimum-echo-receive-interval
    + required-minimum-receive
+ total_bfd_sessions
+ total_unmatched_bfd_packets

```

Each chapter of this guide describes a branch in the tree with field names linked to their corresponding descriptions. These descriptions indicate the required syntax for each field. See [Field descriptions](#) for more information.

*Italic names after a field indicate the parameter type. Parameter types include (but are not limited to):*

- Boolean (true and false values)
- keyword (enumerated values)

- string
- number
- IPv4 prefix
- IPv6 prefix
- IPv4 address
- IPv6 address
- MAC address

For more information about the input values, click the field or parameter name in the tree. The link will take you to the description where these values are defined.

A parameter type may also be a combination of different base types. These parameters are displayed in the tree with the individual parameter types enclosed in round brackets and separated by a pipe. For example: *(keyword | number)*

## 2.2 Transaction and report types

The following transaction and report types are used with the SR Linux:

- configuration transactions
- state transactions
- show reports

Configuration transactions allow you to modify a configuration while state transactions allow you to view the configuration and operational state.

In the tree hierarchy, configuration transactions are denoted with a plus sign (+). State transactions are denoted with a minus sign (-). See [Figure 2: Configuration/state in tree hierarchy](#).

Figure 2: Configuration/state in tree hierarchy



Each field description has a field called "Configurable". The field is set to either:

- true (for configuration transactions)
- false (for state transactions)

Show reports are Python plug-ins used to create custom output. A set of pre-defined show reports are provided and described in the *SR Linux System Management Guide*. These pre-defined reports can be used as examples for how to create additional custom reports.

## 2.3 Hardware platform designation

The platforms field is used to define the hardware platforms that are valid for a transaction. If a transaction is only valid on specific platforms, the designation is similar to the following:

*Figure 3: Platforms: applies to designated platforms only*

<b>name string</b>	
<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string mirror-source interface name string</a>
<b>String Length</b>	3 to 20
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D3, 7220 IXR-D5, 7220 IXR-D2, 7220 IXR-D2L

If a transaction is valid on all platforms, the designation is the following:

*Figure 4: Platforms: applies to all platforms*

<b>acl</b>	
<b>Description</b>	Top level enclosing container for ACL operational tools
<b>Context</b>	<a href="#">acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 2.4 Field descriptions

Syntax for each field is displayed in bold, followed by supported parameters and their type. In the example that follows, the **bfd network-instance** field shows that the parameter type is a string:

```
- bfd
  - network-instance string
```

[Table 1: Field descriptions](#) describes valid fields for commands. Not all fields are applicable for all commands.

*Table 1: Field descriptions*

Field	Description
Context	Configuration path to the command
Tree	Defines the commands location in the tree hierarchy
Description	Describes the command
Configurable	Indicates if the command can be configured (true) or if it is a view-only state command (false)
String Length	For a string, indicates a range (number of characters allowed)



---

Field	Description
Range	For a number, indicates the range of allowed values
Default	Default value
Units	Base unit type
Options	Enumerated values allowed
Reference	Reference to an instance in the configuration needed before the configuration is considered valid
Max Element	For lists and leaf-lists, the maximum number of elements
Platform	Defines the supported hardware platforms

### 2.4.1 References

A description of each parameter is also available from the online CLI help function. See the *SR Linux System Management Guide* for information on using the CLI help.

## 3 acl

```

acl
+ capture-filter
+ ipv4-filter
  + entry sequence-id number
  + action
    + accept
    + copy
  + description string
  + match
    + destination-ip
      + address string
      + mask string
      + prefix string
    + destination-port
      + operator keyword
      + range
        + end (number | keyword)
        + start (number | keyword)
      + value (number | keyword)
    + dscp-set (number | keyword)
    + first-fragment boolean
    + fragment boolean
    + icmp
      + code number
      + type (number | keyword)
    + protocol (number | keyword)
    + source-ip
      + address string
      + mask string
      + prefix string
    + source-port
      + operator keyword
      + range
        + end (number | keyword)
        + start (number | keyword)
      + value (number | keyword)
    + tcp-flags string
    - tcam-entries number
+ ipv6-filter
  + entry sequence-id number
  + action
    + accept
    + copy
  + description string
  + match
    + destination-ip
      + address string
      + mask string
      + prefix string
    + destination-port
      + operator keyword
      + range
        + end (number | keyword)
        + start (number | keyword)
      + value (number | keyword)
    + dscp-set (number | keyword)

```

```

+ icmp6
+ code number
+ type (number | keyword)
+ next-header (number | keyword)
+ source-ip
+ address string
+ mask string
+ prefix string
+ source-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ tcp-flags string
- tcam-entries number
+ cpm-filter
+ ipv4-filter
+ entry sequence-id number
+ action
+ accept
+ log boolean
+ rate-limit
+ policer reference
+ system-cpu-policer reference
+ drop
+ log boolean
+ description string
+ match
+ destination-ip
+ address string
+ mask string
+ prefix string
+ destination-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ dscp-set (number | keyword)
+ first-fragment boolean
+ fragment boolean
+ icmp
+ code number
+ type (number | keyword)
+ protocol (number | keyword)
+ source-ip
+ address string
+ mask string
+ prefix string
+ source-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ tcp-flags string
- statistics
- distributed-policer
- conforming-octets number
- conforming-packets number
- exceeding-octets number
- exceeding-packets number
- last-clear string

```

```

- last-match string
- matched-packets number
- system-cpu-policer
  - conforming-octets number
  - conforming-packets number
  - exceeding-octets number
  - exceeding-packets number
- tcam-entries number
- last-clear string
+ statistics-per-entry boolean
+ ipv6-filter
+ entry sequence-id number
+ action
  + accept
    + log boolean
    + rate-limit
      + policer reference
      + system-cpu-policer reference
  + drop
    + log boolean
+ description string
+ match
  + destination-ip
    + address string
    + mask string
    + prefix string
  + destination-port
    + operator keyword
    + range
      + end (number | keyword)
      + start (number | keyword)
    + value (number | keyword)
  + dscp-set (number | keyword)
  + icmp6
    + code number
    + type (number | keyword)
  + next-header (number | keyword)
  + source-ip
    + address string
    + mask string
    + prefix string
  + source-port
    + operator keyword
    + range
      + end (number | keyword)
      + start (number | keyword)
    + value (number | keyword)
  + tcp-flags string
- statistics
  - distributed-policer
    - conforming-octets number
    - conforming-packets number
    - exceeding-octets number
    - exceeding-packets number
  - last-clear string
  - last-match string
  - matched-packets number
  - system-cpu-policer
    - conforming-octets number
    - conforming-packets number
    - exceeding-octets number
    - exceeding-packets number
  - tcam-entries number
- last-clear string

```

```

+ statistics-per-entry boolean
+ mac-filter
+ entry sequence-id number
+ action
+ accept
+ log boolean
+ rate-limit
+ policer reference
+ system-cpu-policer reference
+ drop
+ log boolean
+ description string
+ match
+ destination-mac
+ address string
+ mask string
+ ethertype (string | keyword)
+ source-mac
+ address string
+ mask string
+ vlan
+ outermost-vlan-id
+ none
+ operator keyword
+ range
+ end number
+ start number
+ value number
- statistics
- distributed-policer
- conforming-octets number
- conforming-packets number
- exceeding-octets number
- exceeding-packets number
- last-clear string
- last-match string
- matched-packets number
- system-cpu-policer
- conforming-octets number
- conforming-packets number
- exceeding-octets number
- exceeding-packets number
- tcam-entries number
- last-clear string
+ statistics-per-entry boolean
- datapath-programming
- forwarding-complex slot-id number complex-id number
- last-completed-timestamp string
- programming-complete boolean
+ egress-mac-filtering boolean
+ ipv4-filter name string
+ description string
+ entry sequence-id number
+ action
+ accept
+ forwarding-class (keyword | reference)
+ log boolean
+ rate-limit reference
+ drop
+ log boolean
+ description string
+ match
+ destination-ip
+ address string

```

```

+ mask string
+ prefix string
+ destination-port
+ operator keyword
+ range
  + end (number | keyword)
  + start (number | keyword)
  + value (number | keyword)
+ dscp-set (number | keyword)
+ first-fragment boolean
+ fragment boolean
+ icmp
  + code number
  + type (number | keyword)
+ protocol (number | keyword)
+ source-ip
  + address string
  + mask string
  + prefix string
+ source-port
  + operator keyword
  + range
    + end (number | keyword)
    + start (number | keyword)
    + value (number | keyword)
+ tcp-flags string
- statistics
  - aggregate
    - in-last-match string
    - in-matched-packets number
    - out-last-match string
    - out-matched-packets number
  - last-clear string
  - per-interface
    - subinterface name string
    - in-last-match string
    - in-matched-packets number
    - last-clear string
    - out-last-match string
    - out-matched-packets number
  - tcam-entries
    - forwarding-complex complex-identifier string
    - input-total number
    - output-total number
    - single-instance number
- last-clear string
+ statistics-per-entry boolean
+ subinterface-specific keyword
+ ipv6-filter name string
+ description string
+ entry sequence-id number
+ action
  + accept
    + forwarding-class (keyword | reference)
    + log boolean
    + rate-limit reference
  + drop
    + log boolean
+ description string
+ match
  + destination-ip
    + address string
    + mask string
    + prefix string

```

```

+ destination-port
+   operator keyword
+   range
+     end (number | keyword)
+     start (number | keyword)
+   value (number | keyword)
+ dscp-set (number | keyword)
+ icmp6
+   code number
+   type (number | keyword)
+ next-header (number | keyword)
+ source-ip
+   address string
+   mask string
+   prefix string
+ source-port
+   operator keyword
+   range
+     end (number | keyword)
+     start (number | keyword)
+   value (number | keyword)
+ tcp-flags string
- statistics
-   aggregate
-     in-last-match string
-     in-matched-packets number
-     out-last-match string
-     out-matched-packets number
-   last-clear string
-   per-interface
-     subinterface name string
-     in-last-match string
-     in-matched-packets number
-     last-clear string
-     out-last-match string
-     out-matched-packets number
-   tcam-entries
-     forwarding-complex complex-identifier string
-     input-total number
-     output-total number
-     single-instance number
- last-clear string
+ statistics-per-entry boolean
+ subinterface-specific keyword
+ mac-filter name string
+   description string
+   entry sequence-id number
+   action
+     accept
+       forwarding-class (keyword | reference)
+       log boolean
+       rate-limit reference
+     drop
+       log boolean
+   description string
+   match
+     destination-mac
+       address string
+       mask string
+     ethertype (string | keyword)
+     source-mac
+       address string
+       mask string
+   vlan

```

```

    + outermost-vlan-id
      + none
      + operator keyword
      + range
        + end number
        + start number
        + value number
  - statistics
    - aggregate
      - in-last-match string
      - in-matched-packets number
      - out-last-match string
      - out-matched-packets number
    - last-clear string
    - per-interface
      - subinterface name string
        - in-last-match string
        - in-matched-packets number
        - last-clear string
        - out-last-match string
        - out-matched-packets number
    - tcam-entries
      - forwarding-complex complex-identifier string
      - input-total number
      - output-total number
      - single-instance number
  - last-clear string
+ statistics-per-entry boolean
+ subinterface-specific keyword
+ policers
+ policer name string
+ entry-specific boolean
+ max-burst number
+ peak-rate number
- statistics
  - aggregate
    - conforming-octets number
    - conforming-packets number
    - exceeding-octets number
    - exceeding-packets number
    - last-clear string
+ system-cpu-policer name string
+ entry-specific boolean
+ max-packet-burst number
+ peak-packet-rate number
- statistics
  - conforming-octets number
  - conforming-packets number
  - exceeding-octets number
  - exceeding-packets number
  - last-clear string
+ system-filter
+ ipv4-filter
  + entry sequence-id number
  + action
    + accept
    + drop
    + log boolean
  + description string
  + match
    + destination-ip
      + address string
      + mask string
      + prefix string

```



```

+ destination-port
+ operator keyword
+ range
+   end (number | keyword)
+   start (number | keyword)
+ value (number | keyword)
+ dscp-set (number | keyword)
+ first-fragment boolean
+ fragment boolean
+ icmp
+   code number
+   type (number | keyword)
+ protocol (number | keyword)
+ source-ip
+   address string
+   mask string
+   prefix string
+ source-port
+ operator keyword
+ range
+   end (number | keyword)
+   start (number | keyword)
+ value (number | keyword)
+ tcp-flags string
- statistics
-   last-clear string
-   last-match string
-   matched-packets number
- tcam-entries number
- last-clear string
+ ipv6-filter
+ entry sequence-id number
+ action
+   accept
+   drop
+   log boolean
+ description string
+ match
+   destination-ip
+   address string
+   mask string
+   prefix string
+ destination-port
+ operator keyword
+ range
+   end (number | keyword)
+   start (number | keyword)
+ value (number | keyword)
+ dscp-set (number | keyword)
+ icmp6
+   code number
+   type (number | keyword)
+ next-header (number | keyword)
+ source-ip
+   address string
+   mask string
+   prefix string
+ source-port
+ operator keyword
+ range
+   end (number | keyword)
+   start (number | keyword)
+ value (number | keyword)
+ tcp-flags string

```

---

```
- statistics
  - last-clear string
  - last-match string
  - matched-packets number
  - tcam-entries number
- last-clear string
+ tcam-profile keyword
```

## 3.1 acl Descriptions

### acl

<b>Description</b>	Top level container for configuration and operational state related to access control lists (ACLs)
<b>Context</b>	<a href="#">acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### capture-filter

<b>Description</b>	Top level container for capture filters
<b>Context</b>	<a href="#">acl capture-filter</a>
<b>Tree</b>	<a href="#">capture-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv4-filter

<b>Description</b>	Top level container for capture IPv4 filters
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### entry [sequence-id](#) *number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**action**

<b>Description</b>	Container for the actions to be applied to packets matching the capture filter entry.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**accept**

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**copy**

<b>Description</b>	Create a copy of matching packets extract them to the CPM and deliver them to the designated veth interface
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">copy</a>
<b>Tree</b>	<a href="#">copy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**description string**

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match**

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-ip**

<b>Description</b>	Packet matching criteria based on destination IPv4 address
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address string**

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask string**

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix string**

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-port**

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-port destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**operator keyword**

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le</li> </ul>

- Less than or equal.
- ge
- Greater than or equal.
- eq
- Equal to.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match destination-port range end (<i>number</i>   <i>keyword</i>)</a>
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> </ul>

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- aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
  - bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client



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- dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol

- 
- gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)

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- irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell
  - l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
  - ldap  
Lightweight Directory Access Protocol (LDAP)
  - ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - ldp  
Label Distribution Protocol
  - lmp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd

- 
- Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1

- NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp

- 
- PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb

- 
- RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission

- 
- Email message submission (SMTP)
  - sunrpc
    - Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc
    - Service Location Protocol (SLP)
  - syslog
    - Syslog (UDP) and Remote Shell (TCP)
  - systat
    - Active Users (systat service)
  - tacacs
    - TACACS Login Host protocol
  - talk
    - Talk
  - tcpmux
    - TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv
    - tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp
    - Trivial File Transfer Protocol (TFTP)
  - time
    - Time Protocol
  - timed
    - Timeserver
  - ups
    - Uninterruptible power supply (UPS)
  - xdmcp
    - X Display Manager Control Protocol (XDMCP)
  - xns-ch
    - Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail
    - Xerox Network Systems (XNS) Mail
  - xns-time
    - Xerox Network Systems (XNS) Time Protocol
  - z3950
    - ANSI Z39.50



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">capture-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a> <b>start</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>acap</code> Application Configuration Access Protocol</li> <li>• <code>afp-tcp</code> Apple Filing Protocol over TCP</li> <li>• <code>arns</code> A Remote Network Server System</li> <li>• <code>asf-rmcp</code> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <code>ashare</code> AppleShare IP Web Administration</li> <li>• <code>atalk-rm</code> AppleTalk Routing Maintenance</li> <li>• <code>aurp</code> AppleTalk Update-Based Routing Protocol</li> <li>• <code>auth</code> Authentication Service</li> <li>• <code>bfd</code> Bidirectional Forwarding Detection Single Hop</li> <li>• <code>bfd-echo</code> BFD Echo</li> <li>• <code>bftp</code> Background File Transfer Program</li> <li>• <code>bgmp</code> Border Gateway Multicast Protocol</li> <li>• <code>bgp</code> Border Gateway Protocol</li> </ul>

- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
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Character Generator Protocol (CHARGEN)
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Cisco Tag Distribution Protocol
- citadel  
Citadel
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ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
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Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
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DHCPv6 Server
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Domain Name System
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Display Support Protocol

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Echo Protocol
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Extensible Provisioning Protocol
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Efficient Short Remote Operations (ESRO)
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Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
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Linux-HA high-availability heartbeat
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NIC hostname server
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HP data alarm manager
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Hypertext Transfer Protocol

- 
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
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http-mgmt
  - http-rpc  
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Internet Printing Protocol
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  - ipx  
Internetwork Packet Exchange (IPX)
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IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system

- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
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Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent

- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews

- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
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- pim-auto-rp  
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RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
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- syslog  
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- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)

- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A destination port number
<b>Context</b>	<a href="#">acl</a> <a href="#">capture-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> </ul>

- 
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
  - ashare  
AppleShare IP Web Administration
  - atalk-rm  
AppleTalk Routing Maintenance
  - aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
  - bfd  
Bidirectional Forwarding Detection Single Hop
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BFD Echo
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Citadel
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ClearCase albd
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Daytime Protocol
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  - esro  
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  - ftp-data  
File Transfer Protocol data
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FTPS (FTP over SSL/TLS) control

- `ftps-data`  
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- `godi`  
Group Domain Of Interpretation (GDOI) protocol
- `gopher`  
Gopher protocol
- `gtp-c`  
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- `gtp-prime`  
GTP prime CDR logging protocol
- `gtp-u`  
GTP user data messages (GTP-U)
- `ha-cluster`  
Linux-HA high-availability heartbeat
- `hostname`  
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`http-mgmt`
- `http-rpc`  
Remote procedure call over Hypertext Transfer Protocol
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- `ieee-mms-ssl`  
IEEE Media Management System over SSL
- `imap`  
Internet Message Access Protocol (IMAP)
- `imap3`  
Internet Message Access Protocol (IMAP), version 3
- `imaps`  
Internet Message Access Protocol over TLS/SSL

- ipp  
Internet Printing Protocol
- ipsec  
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- ipx  
Internetwork Packet Exchange (IPX)
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IRIS (Internet Registry Information Service) over BEEP
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Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
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- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd

## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
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- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr



- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>CS0</li> <li>LE</li> <li>CS1</li> <li>AF11</li> <li>AF12</li> <li>AF13</li> <li>CS2</li> <li>AF21</li> <li>AF22</li> <li>AF23</li> <li>CS3</li> <li>AF31</li> <li>AF32</li> <li>AF33</li> <li>CS4</li> <li>AF41</li> <li>AF42</li> <li>AF43</li> <li>CS5</li> </ul>

- EF
- CS6
- CS7

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

### first-fragment *boolean*

<b>Description</b>	Match the first fragment of an IPv4 datagram A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and and the more-fragments bit is 1. It is not valid to configure this leaf without configuring a match value for the fragment leaf.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match first-fragment boolean</a>
<b>Tree</b>	<a href="#">first-fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### fragment *boolean*

<b>Description</b>	Match an IPv4 fragment A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and and the more-fragments bit is 1 or if the IPv4 header indicates that the fragment-offset is greater than 0. A packet matches the false condition if it is unfragmented.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match fragment boolean</a>
<b>Tree</b>	<a href="#">fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### icmp

<b>Description</b>	A packet matches this condition if its ICMP type and code matches one of the specified combinations The rule should also have a condition that the IP protocol equals 1 (ICMP) in order for this to be interpreted correctly.
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<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match icmp</a>
<b>Tree</b>	<a href="#">icmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**code** *number*

<b>Description</b>	Match if the ICMP code value is any value in the list Requires ICMP type to be specified because codes are type dependent.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match icmp code</a> <i>number</i>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type** (*number* | *keyword*)

<b>Description</b>	Match a single ICMP type value.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match icmp type</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>echo-reply</code> ICMP Echo Reply</li> <li>• <code>dest-unreachable</code> ICMP Destination Unreachable</li> <li>• <code>source-quench</code> ICMP Source Quench</li> <li>• <code>redirect</code> ICMP Redirect</li> <li>• <code>echo</code> ICMP Echo</li> <li>• <code>router-advertise</code> ICMP Router Advertisement</li> <li>• <code>router-solicit</code> ICMP Router Solicitation</li> </ul>

	<ul style="list-style-type: none"> <li>time-exceeded ICMP Time Exceeded</li> <li>param-problem ICMP Parameter Problem</li> <li>timestamp ICMP Timestamp</li> <li>timestamp-reply ICMP Timestamp Reply</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **protocol** (*number* | *keyword*)

<b>Description</b>	An IPv4 packet matches this condition if its IP protocol type field matches the specified value
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id <i>number</i> match protocol (<i>number</i>   <i>keyword</i>)</a>
<b>Tree</b>	<a href="#">protocol</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>ipv6-hop IPv6 hop-by-hop option</li> <li>icmp Internet Control Message Protocol</li> <li>igmp Internet Group Management Protocol</li> <li>ggp Gateway-to-Gateway Protocol</li> <li>ipv4 IPv4 encapsulation</li> <li>st Stream Protocol</li> <li>tcp Transmission Control Protocol</li> <li>egp Exterior Gateway Protocol</li> <li>igp Interior Gateway Protocol</li> </ul>

- udp  
User Datagram Protocol
- ipv6  
IPv6 encapsulation
- idrp  
Inter-Domain Routing Protocol
- rsvp  
Resource Reservation Protocol
- gre  
Generic Routing Encapsulation
- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-ip**

<b>Description</b>	Packet matching criteria based on source IPv4 address
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-ip</a>
<b>Tree</b>	<a href="#">source-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### source-port

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### operator *keyword*

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **end** (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match source-port range end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">acap</a> Application Configuration Access Protocol</li> <li>• <a href="#">afp-tcp</a> Apple Filing Protocol over TCP</li> <li>• <a href="#">arns</a> A Remote Network Server System</li> <li>• <a href="#">asf-rmcp</a> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <a href="#">ashare</a> AppleShare IP Web Administration</li> <li>• <a href="#">atalk-rm</a> AppleTalk Routing Maintenance</li> <li>• <a href="#">aurp</a> AppleTalk Update-Based Routing Protocol</li> <li>• <a href="#">auth</a> Authentication Service</li> <li>• <a href="#">bfd</a> Bidirectional Forwarding Detection Single Hop</li> <li>• <a href="#">bfd-echo</a> BFD Echo</li> <li>• <a href="#">bftp</a> Background File Transfer Program</li> <li>• <a href="#">bgmp</a> Border Gateway Multicast Protocol</li> <li>• <a href="#">bgp</a> Border Gateway Protocol</li> <li>• <a href="#">bootpc</a></li> </ul>

- 
- Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps
    - Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns
    - CCSO Nameserver
  - chargen
    - Character Generator Protocol (CHARGEN)
  - cisco-tdp
    - Cisco Tag Distribution Protocol
  - citadel
    - Citadel
  - clearcase
    - ClearCase albd
  - commerce
    - Commerce Applications
  - courier
    - Remote Procedure Call
  - daytime
    - Daytime Protocol
  - dhcpv6-client
    - DHCPv6 Client
  - dhcpv6-server
    - DHCPv6 Server
  - dhcp-failover
    - DHCP Failover Protocol
  - dicom
    - Digital Imaging and Communications in Medicine
  - discard
    - Discard Protocol. Also Wake-on-LAN.
  - dnsix
    - DNSIX security protocol auditing
  - domain
    - Domain Name System
  - dsp
    - Display Support Protocol
  - echo

- 
- Echo Protocol
  - epp
    - Extensible Provisioning Protocol
  - esro
    - Efficient Short Remote Operations (ESRO)
  - exec
    - Remote Process Execution (Rexec)
  - finger
    - Finger protocol
  - ftp
    - File Transfer Protocol control
  - ftp-data
    - File Transfer Protocol data
  - ftps
    - FTPS (FTP over SSL/TLS) control
  - ftps-data
    - FTPS (FTP over SSL/TLS) data
  - godi
    - Group Domain Of Interpretation (GDOI) protocol
  - gopher
    - Gopher protocol
  - gtp-c
    - GTP control messages (GTP-C)
  - gtp-prime
    - GTP prime CDR logging protocol
  - gtp-u
    - GTP user data messages (GTP-U)
  - ha-cluster
    - Linux-HA high-availability heartbeat
  - hostname
    - NIC hostname server
  - hp-alarm-mgr
    - HP data alarm manager
  - http
    - Hypertext Transfer Protocol
  - http-alt

- 
- FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system

- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent

- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews



- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server

- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)

- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)

- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl capture-filter</a> <a href="#">ipv4-filter entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> </ul>

- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications

- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control

- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL

- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp



- Label Distribution Protocol
- Imp
- Link Management Protocol (LMP)
- login
- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd

## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr

- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl capture-filter ipv4-filter entry sequence-id number match source-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo BFD Echo</li> </ul>

- 
- bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.

- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat



- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal

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Mobile IP Agent
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Monitor
- mpp  
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NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service

- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
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Netnews
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netwall, for Emergency Broadcasts
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new-rwho, new-who
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OpenVPN
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PIM Auto-RP
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Post Office Protocol, version 3 (POP3)
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Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
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- rmonitor  
rmonitor, Remote Monitor
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Rpc2portmap
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Real Time Streaming Protocol (RTSP)
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Simple Gateway Monitoring Protocol (SGMP)
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- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)

- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms

**tcp-flags** *string***Description**

A logical expression using the &amp;, | and ! logical operators and the TCP flag names: rst, syn and ack.

**Context**[acl capture-filter ipv4-filter entry sequence-id number match tcp-flags string](#)**Tree**[tcp-flags](#)**Configurable**

True

**Platforms** Supported on all platforms

### **tcam-entries** *number*

**Description** The number of TCAM entries required to implement a single instance of this filter rule.

**Context** [acl capture-filter ipv4-filter entry sequence-id number tcam-entries number](#)

**Tree** [tcam-entries](#)

**Configurable** False

**Platforms** Supported on all platforms

### **ipv6-filter**

**Description** Top level container for capture IPv6 filters

**Context** [acl capture-filter ipv6-filter](#)

**Tree** [ipv6-filter](#)

**Configurable** True

**Platforms** Supported on all platforms

### **entry** [sequence-id](#) *number*

**Description** List of filter rules.

**Context** [acl capture-filter ipv6-filter entry sequence-id number](#)

**Tree** [entry](#)

**Configurable** True

**Platforms** Supported on all platforms

### **sequence-id** *number*

**Description** A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries

**Context** [acl capture-filter ipv6-filter entry sequence-id number](#)

**Range** 1 to 65535

**Configurable** True

**Platforms** Supported on all platforms



**action**

<b>Description</b>	Container for the actions to be applied to packets matching the capture filter entry.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**accept**

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number action accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**copy**

<b>Description</b>	Create a copy of matching packets extract them to the CPM and deliver them to the designated veth interface
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number action copy</a>
<b>Tree</b>	<a href="#">copy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**description *string***

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match**

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-ip**

<b>Description</b>	Packet matching criteria based on destination IPv6 address
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address *string***

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-ip</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask *string***

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-ip</a> <a href="#">mask</a> <i>string</i>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix string**

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match destination-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-port**

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match destination-port destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match destination-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**range**

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl</a> <a href="#">capture-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**end** (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">capture-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a> <a href="#">end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>acap</code> Application Configuration Access Protocol</li> <li>• <code>afp-tcp</code> Apple Filing Protocol over TCP</li> <li>• <code>arns</code> A Remote Network Server System</li> <li>• <code>asf-rmcp</code> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <code>ashare</code> AppleShare IP Web Administration</li> <li>• <code>atalk-rm</code> AppleTalk Routing Maintenance</li> <li>• <code>aurp</code> AppleTalk Update-Based Routing Protocol</li> <li>• <code>auth</code> Authentication Service</li> <li>• <code>bfd</code> Bidirectional Forwarding Detection Single Hop</li> <li>• <code>bfd-echo</code> BFD Echo</li> </ul>

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Border Gateway Protocol
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Bootstrap Protocol (BOOTP) Client and DHCP Client
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Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
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DHCPv6 Server
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DHCP Failover Protocol
  - dicom  
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Discard Protocol. Also Wake-on-LAN.

- dnsix  
DNSIX security protocol auditing
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Display Support Protocol
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Extensible Provisioning Protocol
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- exec  
Remote Process Execution (Rexec)
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Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
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FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat

- 
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NIC hostname server
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HP data alarm manager
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FileMaker Web Sharing (HTTP Alternate)
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Remote procedure call over Hypertext Transfer Protocol
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Internet Security Association and Key Management Protocol (ISAKMP) /  
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  - isakmp-nat  
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Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B



- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service

- 
- netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp  
Network Time Protocol (NTP)
  - odmr  
On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)

- 
- ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol

- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)

- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">capture-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a> <b>start</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535

---

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp

- 
- Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger

- Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl



- 
- IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell

- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
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Mapping of Airline Traffic over Internet Protocol (MATIP) type A
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- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server

- msdp  
Multicast Source Discovery Protocol
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Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
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Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
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- ntp  
Network Time Protocol (NTP)
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- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
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- pop3s  
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- ptp-event  
Precision Time Protocol (PTP) event messages
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- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol

- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)

- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
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Simple Mail Transfer Protocol (SMTP)
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Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
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Service Location Protocol (SLP)
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Syslog (UDP) and Remote Shell (TCP)
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Active Users (systat service)
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TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver

	<ul style="list-style-type: none"> <li>• ups Uninterruptible power supply (UPS)</li> <li>• xdmcp X Display Manager Control Protocol (XDMCP)</li> <li>• xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>• xns-mail Xerox Network Systems (XNS) Mail</li> <li>• xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>• z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A destination port number
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match destination-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aurp AppleTalk Update-Based Routing Protocol</li> </ul>

- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server



- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)

- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
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IRIS (Internet Registry Information Service) over BEEP
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NETRJS protocol
  - netrjs-2

- NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
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NetBIOS Datagram Service
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NetBIOS Session Service
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Netnews
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netwall, for Emergency Broadcasts
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new-rwho, new-who
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PIM Auto-RP
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RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc

- 
- IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
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Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc

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- svcloc  
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- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms



**dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl capture-filter</a> <a href="#">ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>• CS0</li> <li>• LE</li> <li>• CS1</li> <li>• AF11</li> <li>• AF12</li> <li>• AF13</li> <li>• CS2</li> <li>• AF21</li> <li>• AF22</li> <li>• AF23</li> <li>• CS3</li> <li>• AF31</li> <li>• AF32</li> <li>• AF33</li> <li>• CS4</li> <li>• AF41</li> <li>• AF42</li> <li>• AF43</li> <li>• CS5</li> <li>• EF</li> <li>• CS6</li> <li>• CS7</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**icmp6**

<b>Description</b>	A packet matches this condition if its ICMPv6 type and code matches one of the specified combinations  The rule should also have a condition that the next-header value equals 58 (ICMPv6) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match icmp6</a>
<b>Tree</b>	<a href="#">icmp6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**code *number***

<b>Description</b>	Match if the ICMPv6 code value is any value in the list  Requires ICMPv6 type to be specified because codes are type dependent.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match icmp6 code</a> <i>number</i>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type (*number* | *keyword*)**

<b>Description</b>	Match a single ICMPv6 type value
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match icmp6 type</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• dest-unreachable ICMPv6 Destination Unreachable</li> <li>• packet-too-big ICMPv6 Packet Too Big</li> <li>• time-exceeded ICMPv6 Time Exceeded</li> <li>• param-problem Parameter Problem</li> <li>• echo-request</li> </ul>

- ICMPv6 Echo Request
- echo-reply  
ICMPv6 Echo Reply
- mld-query  
Multicast Listener Discovery Query
- mld-report  
Multicast Listener Discovery Report
- mld-done  
Multicast Listener Discovery Done
- router-solicit  
ICMPv6 Router Solicitation
- router-advertise  
ICMPv6 Router Advertisement
- neighbor-solicit  
ICMPv6 Neighbor Solicitation
- neighbor-advertise  
ICMPv6 Neighbor Advertisement
- redirect  
ICMPv6 Redirect
- router-renumber  
ICMPv6 Router Renumbering
- node-info-query  
ICMPv6 Node Information Query
- node-info-response  
ICMPv6 Node Information Response
- mld-v2  
Multicast Listener Discovery Version 2
- mcast-rtr-adv  
Multicast Router Advertisement
- mcast-rtr-solicit  
Multicast Router Solicitation
- mcast-rtr-term  
Multicast Router Termination

**Configurable  
Platforms**

True  
Supported on all platforms

**next-header** (*number* | *keyword*)

<b>Description</b>	An IPv6 packet matches this condition if its first next-header field (in the IPv6 fixed header) contains the specified value
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match next-header</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">next-header</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"><li>• <code>ipv6-hop</code> IPv6 hop-by-hop option</li><li>• <code>icmp</code> Internet Control Message Protocol</li><li>• <code>igmp</code> Internet Group Management Protocol</li><li>• <code>ggp</code> Gateway-to-Gateway Protocol</li><li>• <code>ipv4</code> IPv4 encapsulation</li><li>• <code>st</code> Stream Protocol</li><li>• <code>tcp</code> Transmission Control Protocol</li><li>• <code>egp</code> Exterior Gateway Protocol</li><li>• <code>igp</code> Interior Gateway Protocol</li><li>• <code>udp</code> User Datagram Protocol</li><li>• <code>ipv6</code> IPv6 encapsulation</li><li>• <code>idrp</code> Inter-Domain Routing Protocol</li><li>• <code>rsvp</code> Resource Reservation Protocol</li><li>• <code>gre</code> Generic Routing Encapsulation</li></ul>

- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable**

True

**Platforms**

Supported on all platforms

**source-ip****Description**

Packet matching criteria based on source IPv6 address

**Context**[acl capture-filter ipv6-filter entry sequence-id number match source-ip](#)**Tree**[source-ip](#)**Configurable**

True

**Platforms**

Supported on all platforms

**address string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match source-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match source-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### operator *keyword*

**Description** Comparison operator  
eq = equal ge = greater than or equal to le = less than or equal to

**Context** [acl capture-filter ipv6-filter entry sequence-id number match source-port operator keyword](#)

**Tree** [operator](#)

**Options**

- le  
Less than or equal.
- ge  
Greater than or equal.
- eq  
Equal to.

**Configurable** True

**Platforms** Supported on all platforms

### range

**Description** Container used to specify a contiguous range of TCP/UDP port numbers

**Context** [acl capture-filter ipv6-filter entry sequence-id number match source-port range](#)

**Tree** [range](#)

**Configurable** True

**Platforms** Supported on all platforms

### end (*number* | *keyword*)

**Description** The ending port number to include in the range

**Context** [acl capture-filter ipv6-filter entry sequence-id number match source-port range end \(number | keyword\)](#)

**Tree** [end](#)

**Range** 0 to 65535

**Options**

- acap  
Application Configuration Access Protocol

- 
- afp-tcp  
Apple Filing Protocol over TCP
  - arns  
A Remote Network Server System
  - asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
  - ashare  
AppleShare IP Web Administration
  - atalk-rm  
AppleTalk Routing Maintenance
  - aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
  - bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel



- 
- clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control

- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)

- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap

- 
- Lightweight Directory Access Protocol (LDAP)
  - ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - ldap  
Label Distribution Protocol
  - lmp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange

- 
- MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol
  - netbios-data  
NetBIOS Datagram Service
  - netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp

- 
- Network Time Protocol (NTP)
  - odmr  
On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs

- 
- Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp

- 
- Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)



- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aarp AppleTalk Update-Based Routing Protocol</li> <li>• auth Authentication Service</li> </ul>

- 
- bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol

- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol

- 
- gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP

- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm

- 
- Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3

- NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3

- 
- Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor



- 
- rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC

- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**  
**Platforms**

True  
Supported on all platforms

**value** (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl</a> <a href="#">capture-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <i>value</i> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b> Authentication Service</li> <li>• <b>bfd</b> Bidirectional Forwarding Detection Single Hop</li> <li>• <b>bfd-echo</b> BFD Echo</li> <li>• <b>bftp</b> Background File Transfer Program</li> <li>• <b>bgmp</b> Border Gateway Multicast Protocol</li> <li>• <b>bgp</b> Border Gateway Protocol</li> <li>• <b>bootpc</b> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <b>bootps</b></li> </ul>

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- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp

- 
- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt

- 
- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor

- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts



- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol

- 
- qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **tcp-flags** *string*

<b>Description</b>	A logical expression using the &,   and ! logical operators and the TCP flag names: rst, syn and ack.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number match tcp-flags string</a>
<b>Tree</b>	<a href="#">tcp-flags</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **tcam-entries** *number*

<b>Description</b>	The number of TCAM entries required to implement a single instance of this filter rule.
<b>Context</b>	<a href="#">acl capture-filter ipv6-filter entry sequence-id number tcam-entries number</a>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### cpm-filter

**Description** Top level container for CPM filters

**Context** [acl cpm-filter](#)

**Tree** [cpm-filter](#)

**Configurable** True

**Platforms** Supported on all platforms

### ipv4-filter

**Description** Top level container for CPM IPv4 filters

**Context** [acl cpm-filter ipv4-filter](#)

**Tree** [ipv4-filter](#)

**Configurable** True

**Platforms** Supported on all platforms

### entry [sequence-id number](#)

**Description** List of filter rules.

**Context** [acl cpm-filter ipv4-filter entry sequence-id number](#)

**Tree** [entry](#)

**Configurable** True

**Platforms** Supported on all platforms

### sequence-id *number*

**Description** A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries

**Context** [acl cpm-filter ipv4-filter entry sequence-id number](#)

**Range** 1 to 65535

**Configurable** True

**Platforms** Supported on all platforms

**action**

<b>Description</b>	Container for the actions to be applied to packets matching the CPM filter entry.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**accept**

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**log** *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a> <a href="#">log</a> <i>boolean</i>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rate-limit**

<b>Description</b>	Rate-limit accepted packets
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a> <a href="#">rate-limit</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**policer** *reference*

<b>Description</b>	Reference to a policer
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number action accept rate-limit policer reference</a>
<b>Tree</b>	<a href="#">policer</a>
<b>Reference</b>	<a href="#">acl policers policer name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220

**system-cpu-policer** *reference*

<b>Description</b>	Reference to a system-cpu-policer.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number action accept rate-limit system-cpu-policer reference</a>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Reference</b>	<a href="#">acl policers system-cpu-policer name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**drop**

<b>Description</b>	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**log** *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
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<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number action drop log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **description** *string*

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **match**

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **destination-ip**

<b>Description</b>	Packet matching criteria based on destination IPv4 address
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **address** *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
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<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mask string

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### prefix string

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### destination-port

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-port destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**operator** *keyword*

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le Less than or equal.</li> <li>ge Greater than or equal.</li> <li>eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**range**

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**end** (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match destination-port range end (number   keyword)</a>
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns</li> </ul>

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### A Remote Network Server System

- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd

- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data

- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3

- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps

- 
- Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - ldp  
Label Distribution Protocol
  - lmp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp

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- Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol
  - netbios-data  
NetBIOS Datagram Service
  - netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp  
Network Time Protocol (NTP)
  - odmr



- 
- On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd

- 
- SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp

- 
- Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)

	<ul style="list-style-type: none"> <li>xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port-range</a> <a href="#">start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> </ul>

- 
- bfd-echo  
  BFDD Echo
  - bftp  
  Background File Transfer Program
  - bgmp  
  Border Gateway Multicast Protocol
  - bgp  
  Border Gateway Protocol
  - bootpc  
  Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
  Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
  CCSO Nameserver
  - chargen  
  Character Generator Protocol (CHARGEN)
  - cisco-tdp  
  Cisco Tag Distribution Protocol
  - citadel  
  Citadel
  - clearcase  
  ClearCase albd
  - commerce  
  Commerce Applications
  - courier  
  Remote Procedure Call
  - daytime  
  Daytime Protocol
  - dhcpv6-client  
  DHCPv6 Client
  - dhcpv6-server  
  DHCPv6 Server
  - dhcp-failover  
  DHCP Failover Protocol
  - dicom  
  Digital Imaging and Communications in Medicine

- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)

- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)

- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A



- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol

- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)

- 
- ptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
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Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
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IBM RMC (Remote monitoring and Control) protocol
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rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap

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- rsync  
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Secure Internet Live Conferencing (SILC)
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SNMP multiplexing protocol (SMUX)
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  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)

- **systat**  
Active Users (systat service)
- **tacacs**  
TACACS Login Host protocol
- **talk**  
Talk
- **tcpmux**  
TCP Port Service Multiplexer (TCPMUX)
- **tcpnethasprv**  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- **tftp**  
Trivial File Transfer Protocol (TFTP)
- **time**  
Time Protocol
- **timed**  
Timeserver
- **ups**  
Uninterruptible power supply (UPS)
- **xdmcp**  
X Display Manager Control Protocol (XDMCP)
- **xns-ch**  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- **xns-mail**  
Xerox Network Systems (XNS) Mail
- **xns-time**  
Xerox Network Systems (XNS) Time Protocol
- **z3950**  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms

**value** (*number* | *keyword*)**Description**

A destination port number

**Context**

[acl](#) [cpm-filter](#) [ipv4-filter](#) [entry](#) [sequence-id](#) *number* [match](#) [destination-port](#)  
**value** (*number* | *keyword*)

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<b>Tree</b>	<b>value</b>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"><li>• acap Application Configuration Access Protocol</li><li>• afp-tcp Apple Filing Protocol over TCP</li><li>• arns A Remote Network Server System</li><li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li><li>• ashare AppleShare IP Web Administration</li><li>• atalk-rm AppleTalk Routing Maintenance</li><li>• aurp AppleTalk Update-Based Routing Protocol</li><li>• auth Authentication Service</li><li>• bfd Bidirectional Forwarding Detection Single Hop</li><li>• bfd-echo BFD Echo</li><li>• bftp Background File Transfer Program</li><li>• bgmp Border Gateway Multicast Protocol</li><li>• bgp Border Gateway Protocol</li><li>• bootpc Bootstrap Protocol (BOOTP) Client and DHCP Client</li><li>• bootps Bootstrap Protocol (BOOTP) Server and DHCP Server</li><li>• ccso-ns CCSO Nameserver</li><li>• chargen</li></ul>

- 
- Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec

- 
- Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https



- 
- Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password

- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
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- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
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- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
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- lsp-ping  
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- mac-server-adm  
Mac OS X Server administration
- matip-a  
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- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
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BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
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Microsoft SQL Server database management system (MSSQL) monitor

- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)

- nntp  
Network News Transfer Protocol (NNTP)
- nntpS  
Network News Transfer Protocol over TLS/SSL (NNTPS)
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Network Time Protocol (NTP)
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PIM Auto-RP
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PKIX Time Stamp Protocol (TSP)
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Post Office Protocol, version 2 (POP2)
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Post Office Protocol 3 over TLS/SSL (POP3S)
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Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol

- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
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- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
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RLZ DBase
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IBM RMC (Remote monitoring and Control) protocol
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rmonitor, Remote Monitor
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Rpc2portmap
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rsync file synchronization protocol
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Remote User Telnet Service (RTelnet)
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Secure Internet Live Conferencing (SILC)
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SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server

- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol

	<ul style="list-style-type: none"> <li>timed Timeserver</li> <li>ups Uninterruptible power supply (UPS)</li> <li>xmcp X Display Manager Control Protocol (XDMCP)</li> <li>xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>CS0</li> <li>LE</li> <li>CS1</li> <li>AF11</li> <li>AF12</li> <li>AF13</li> <li>CS2</li> <li>AF21</li> <li>AF22</li> <li>AF23</li> <li>CS3</li> </ul>

	<ul style="list-style-type: none"> <li>• AF31</li> <li>• AF32</li> <li>• AF33</li> <li>• CS4</li> <li>• AF41</li> <li>• AF42</li> <li>• AF43</li> <li>• CS5</li> <li>• EF</li> <li>• CS6</li> <li>• CS7</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

### **first-fragment** *boolean*

<b>Description</b>	Match the first fragment of an IPv4 datagram A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and and the more-fragments bit is 1. It is not valid to configure this leaf without configuring a match value for the fragment leaf.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match first-fragment boolean</a>
<b>Tree</b>	<a href="#">first-fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **fragment** *boolean*

<b>Description</b>	Match an IPv4 fragment A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and and the more-fragments bit is 1 or if the IPv4 header indicates that the fragment-offset is greater than 0. A packet matches the false condition if it is unfragmented.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match fragment boolean</a>
<b>Tree</b>	<a href="#">fragment</a>
<b>Configurable</b>	True



**Platforms** Supported on all platforms

## icmp

**Description** A packet matches this condition if its ICMP type and code matches one of the specified combinations

The rule should also have a condition that the IP protocol equals 1 (ICMP) in order for this to be interpreted correctly.

**Context** [acl cpm-filter ipv4-filter entry sequence-id number match icmp](#)

**Tree** [icmp](#)

**Configurable** True

**Platforms** Supported on all platforms

## code number

**Description** Match if the ICMP code value is any value in the list  
Requires ICMP type to be specified because codes are type dependent.

**Context** [acl cpm-filter ipv4-filter entry sequence-id number match icmp code number](#)

**Tree** [code](#)

**Configurable** True

**Platforms** Supported on all platforms

## type (number | keyword)

**Description** Match a single ICMP type value.

**Context** [acl cpm-filter ipv4-filter entry sequence-id number match icmp type \(number | keyword\)](#)

**Tree** [type](#)

**Range** 0 to 255

**Options**

- echo-reply  
ICMP Echo Reply
- dest-unreachable  
ICMP Destination Unreachable
- source-quench  
ICMP Source Quench
- redirect  
ICMP Redirect

	<ul style="list-style-type: none"> <li>• echo ICMP Echo</li> <li>• router-advertise ICMP Router Advertisement</li> <li>• router-solicit ICMP Router Solicitation</li> <li>• time-exceeded ICMP Time Exceeded</li> <li>• param-problem ICMP Parameter Problem</li> <li>• timestamp ICMP Timestamp</li> <li>• timestamp-reply ICMP Timestamp Reply</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **protocol** (*number* | *keyword*)

<b>Description</b>	An IPv4 packet matches this condition if its IP protocol type field matches the specified value
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match protocol</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">protocol</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv6-hop IPv6 hop-by-hop option</li> <li>• icmp Internet Control Message Protocol</li> <li>• igmp Internet Group Management Protocol</li> <li>• ggp Gateway-to-Gateway Protocol</li> <li>• ipv4 IPv4 encapsulation</li> <li>• st Stream Protocol</li> </ul>

- 
- tcp  
Transmission Control Protocol
  - egp  
Exterior Gateway Protocol
  - igp  
Interior Gateway Protocol
  - udp  
User Datagram Protocol
  - ipv6  
IPv6 encapsulation
  - idrp  
Inter-Domain Routing Protocol
  - rsvp  
Resource Reservation Protocol
  - gre  
Generic Routing Encapsulation
  - esp  
IPSec Encapsulating Security Payload
  - ah  
IPSec Authentication Header
  - icmp6  
IPSec Authentication Header
  - no-next-hdr  
No Next Header for IPv6
  - ipv6-dest-opts  
Destination Options for IPv6
  - eigrp  
Cisco EIGRP
  - ospf  
OSPFv2 and OSPFv3
  - pim  
Protocol Independent Multicast
  - vrrp  
Virtual Router Redundancy Protocol
  - l2tp  
Layer Two Tunneling Protocol

- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable** True

**Platforms** Supported on all platforms

### source-ip

**Description** Packet matching criteria based on source IPv4 address

**Context** [acl cpm-filter ipv4-filter entry sequence-id number match source-ip](#)

**Tree** [source-ip](#)

**Configurable** True

**Platforms** Supported on all platforms

### address *string*

**Description** Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.

**Context** [acl cpm-filter ipv4-filter entry sequence-id number match source-ip address string](#)

**Tree** [address](#)

**Configurable** True

**Platforms** Supported on all platforms

### mask *string*

**Description** Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.

**Context** [acl cpm-filter ipv4-filter entry sequence-id number match source-ip mask string](#)

**Tree** [mask](#)

**Configurable** True

**Platforms** Supported on all platforms

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match source-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">range</a> <a href="#">end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>acap</code> Application Configuration Access Protocol</li> <li>• <code>afp-tcp</code> Apple Filing Protocol over TCP</li> <li>• <code>arns</code> A Remote Network Server System</li> <li>• <code>asf-rmcp</code> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <code>ashare</code> AppleShare IP Web Administration</li> <li>• <code>atalk-rm</code> AppleTalk Routing Maintenance</li> <li>• <code>aurp</code> AppleTalk Update-Based Routing Protocol</li> <li>• <code>auth</code> Authentication Service</li> <li>• <code>bfd</code> Bidirectional Forwarding Detection Single Hop</li> <li>• <code>bfd-echo</code> BFD Echo</li> <li>• <code>bftp</code></li> </ul>

- 
- Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix

- DNSIX security protocol auditing
- domain
  - Domain Name System
- dsp
  - Display Support Protocol
- echo
  - Echo Protocol
- epp
  - Extensible Provisioning Protocol
- esro
  - Efficient Short Remote Operations (ESRO)
- exec
  - Remote Process Execution (Rexec)
- finger
  - Finger protocol
- ftp
  - File Transfer Protocol control
- ftp-data
  - File Transfer Protocol data
- ftps
  - FTPS (FTP over SSL/TLS) control
- ftps-data
  - FTPS (FTP over SSL/TLS) data
- godi
  - Group Domain Of Interpretation (GDOI) protocol
- gopher
  - Gopher protocol
- gtp-c
  - GTP control messages (GTP-C)
- gtp-prime
  - GTP prime CDR logging protocol
- gtp-u
  - GTP user data messages (GTP-U)
- ha-cluster
  - Linux-HA high-availability heartbeat
- hostname



- 
- NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal

- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B

- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service

- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)

- 
- ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol

- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)

- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">range</a> <a href="#">start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535

---

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp



- 
- Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger

- Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl

- 
- IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
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iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell

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Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
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- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
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- lmp  
Link Management Protocol (LMP)
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rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server

- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
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NetWare Core Protocol
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NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)

- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
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Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
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- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol

- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
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- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)

- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver



	<ul style="list-style-type: none"> <li>• ups Uninterruptible power supply (UPS)</li> <li>• xdmcp X Display Manager Control Protocol (XDMCP)</li> <li>• xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>• xns-mail Xerox Network Systems (XNS) Mail</li> <li>• xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>• z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aurp AppleTalk Update-Based Routing Protocol</li> </ul>

- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server

- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)

- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)

- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping

- 
- MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2

- NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2

- 
- Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc



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- IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc

- Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms

**tcp-flags** *string*

<b>Description</b>	A logical expression using the &,   and ! logical operators and the TCP flag names: rst, syn and ack.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number match tcp-flags string</a>
<b>Tree</b>	<a href="#">tcp-flags</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Statistics container for packets matching the CPM-filter entry
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**distributed-policer**

<b>Description</b>	Distributed policer stats for traffic matching the entry.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics distributed-policer</a>
<b>Tree</b>	<a href="#">distributed-policer</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

**conforming-octets** *number*

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics distributed-policer conforming-octets number</a>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

**conforming-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics distributed-policer conforming-packets number</a>
<b>Tree</b>	<a href="#">conforming-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

**exceeding-octets** *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics distributed-policer exceeding-octets number</a>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

**exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics distributed-policer exceeding-packets number</a>
<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

**last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id number statistics last-clear string</a>

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<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-match** *string*

<b>Description</b>	The elapsed time since a packet last matched the entry, considering all subinterfaces and all linecards.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">statistics</a> <a href="#">last-match</a> <a href="#">string</a>
<b>Tree</b>	<a href="#">last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **matched-packets** *number*

<b>Description</b>	The number of packets matching the entry since it was programmed or since the last clear, summed across all subinterfaces and all linecards
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">statistics</a> <a href="#">matched-packets</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **system-cpu-policer**

<b>Description</b>	System CPU policer stats for traffic matching the entry.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">statistics</a> <a href="#">system-cpu-policer</a>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**conforming-octets** *number*

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">system-cpu-policer</a> <a href="#">conforming-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**conforming-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">system-cpu-policer</a> <a href="#">conforming-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">conforming-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**exceeding-octets** *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">system-cpu-policer</a> <a href="#">exceeding-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">system-cpu-policer</a> <a href="#">exceeding-packets</a> <i>number</i>

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<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tcam-entries** *number*

<b>Description</b>	The number of TCAM entries required to implement a single instance of this filter rule.
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **statistics-per-entry** *boolean*

<b>Description</b>	Collect the following statistics per entry: the number of packets matching each entry, and the elapsed time since a packet last matched each entry
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter statistics-per-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">statistics-per-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ipv6-filter**

<b>Description</b>	Top level container for CPM IPv6 filters
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter</a>

<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### entry [sequence-id number](#)

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### sequence-id *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### action

<b>Description</b>	Container for the actions to be applied to packets matching the CPM filter entry.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### accept

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number action accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True



**Platforms** Supported on all platforms

### **log** *boolean*

**Description** When this is true, a log is created for each packet matching the entry  
For IP packets matched by an IP filter entry the log entry contains the following information:  
For Ethernet packets matched by a MAC filter entry the log entry contains the following information:

**Context** [acl cpm-filter ipv6-filter entry sequence-id number action accept log boolean](#)

**Tree** [log](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

### **rate-limit**

**Description** Rate-limit accepted packets

**Context** [acl cpm-filter ipv6-filter entry sequence-id number action accept rate-limit](#)

**Tree** [rate-limit](#)

**Configurable** True

**Platforms** Supported on all platforms

### **policer** *reference*

**Description** Reference to a policer

**Context** [acl cpm-filter ipv6-filter entry sequence-id number action accept rate-limit policer reference](#)

**Tree** [policer](#)

**Reference** [acl policers policer name string](#)

**Configurable** True

**Platforms** Supported on all platforms except 7220

### **system-cpu-policer** *reference*

**Description** Reference to a system-cpu-policer.

<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number action accept rate-limit system-cpu-policer reference</a>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Reference</b>	<a href="#">acl policers system-cpu-policer name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## drop

<b>Description</b>	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## log *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number action drop log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## description *string*

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## match

**Description** Container for the conditions that determine whether a packet matches this entry

**Context** [acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) [number](#) [match](#)

**Tree** [match](#)

**Configurable** True

**Platforms** Supported on all platforms

## destination-ip

**Description** Packet matching criteria based on destination IPv6 address

**Context** [acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) [number](#) [match](#) [destination-ip](#)

**Tree** [destination-ip](#)

**Configurable** True

**Platforms** Supported on all platforms

## address *string*

**Description** Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.

**Context** [acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) [number](#) [match](#) [destination-ip](#) [address](#) [string](#)

**Tree** [address](#)

**Configurable** True

**Platforms** Supported on all platforms

## mask *string*

**Description** Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.

**Context** [acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) [number](#) [match](#) [destination-ip](#) [mask](#) [string](#)

**Tree** [mask](#)

**Configurable** True

**Platforms** Supported on all platforms

### **prefix string**

**Description** Match a packet if its destination IP address is within the specified IPv6 prefix.

**Context** [acl cpm-filter ipv6-filter entry sequence-id number match destination-ip prefix string](#)

**Tree** [prefix](#)

**Configurable** True

**Platforms** Supported on all platforms

### **destination-port**

**Description** A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified

The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.

**Context** [acl cpm-filter ipv6-filter entry sequence-id number match destination-port](#)

**Tree** [destination-port](#)

**Configurable** True

**Platforms** Supported on all platforms

### **operator keyword**

**Description** Comparison operator

eq = equal ge = greater than or equal to le = less than or equal to

**Context** [acl cpm-filter ipv6-filter entry sequence-id number match destination-port operator keyword](#)

**Tree** [operator](#)

**Options**

- le  
Less than or equal.
- ge  
Greater than or equal.
- eq  
Equal to.

**Configurable** True

**Platforms** Supported on all platforms

**range**

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**end** (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a> <a href="#">end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">acap</a> Application Configuration Access Protocol</li> <li>• <a href="#">afp-tcp</a> Apple Filing Protocol over TCP</li> <li>• <a href="#">arns</a> A Remote Network Server System</li> <li>• <a href="#">asf-rmcp</a> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <a href="#">ashare</a> AppleShare IP Web Administration</li> <li>• <a href="#">atalk-rm</a> AppleTalk Routing Maintenance</li> <li>• <a href="#">aurp</a> AppleTalk Update-Based Routing Protocol</li> <li>• <a href="#">auth</a> Authentication Service</li> <li>• <a href="#">bfd</a> Bidirectional Forwarding Detection Single Hop</li> <li>• <a href="#">bfd-echo</a> BFD Echo</li> </ul>

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- bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.

- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat

- 
- hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal



- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B

- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service

- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)

- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol

- 
- rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
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  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)

- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a> <b>start</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535

---

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp

- 
- Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
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  - esro  
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  - exec  
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  - finger



- Finger protocol
- ftp  
File Transfer Protocol control
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File Transfer Protocol data
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FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
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- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
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  - ipx  
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  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
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  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell

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Lightweight Directory Access Protocol (LDAP)
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Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
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- login  
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- lsp-ping  
MPLS LSP-echo
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Mac OS X Server administration
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Mapping of Airline Traffic over Internet Protocol (MATIP) type B
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BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
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- mpp  
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- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
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- msdp  
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- ms-exchange  
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- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
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- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
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- netwall  
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- new-rwho  
new-rwho, new-who
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- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)

- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
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Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
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Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver

	<ul style="list-style-type: none"> <li>• ups Uninterruptible power supply (UPS)</li> <li>• xdmcp X Display Manager Control Protocol (XDMCP)</li> <li>• xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>• xns-mail Xerox Network Systems (XNS) Mail</li> <li>• xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>• z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A destination port number
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-port</a> <i>value</i> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aurp AppleTalk Update-Based Routing Protocol</li> </ul>



- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
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Daytime Protocol
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Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**  
**Platforms**

True  
Supported on all platforms

**dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>• CS0</li> <li>• LE</li> <li>• CS1</li> <li>• AF11</li> <li>• AF12</li> <li>• AF13</li> <li>• CS2</li> <li>• AF21</li> <li>• AF22</li> <li>• AF23</li> <li>• CS3</li> <li>• AF31</li> <li>• AF32</li> <li>• AF33</li> <li>• CS4</li> <li>• AF41</li> <li>• AF42</li> <li>• AF43</li> <li>• CS5</li> <li>• EF</li> <li>• CS6</li> <li>• CS7</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**icmp6**

<b>Description</b>	A packet matches this condition if its ICMPv6 type and code matches one of the specified combinations  The rule should also have a condition that the next-header value equals 58 (ICMPv6) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match icmp6</a>
<b>Tree</b>	<a href="#">icmp6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**code number**

<b>Description</b>	Match if the ICMPv6 code value is any value in the list  Requires ICMPv6 type to be specified because codes are type dependent.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match icmp6 code number</a>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type (number | keyword)**

<b>Description</b>	Match a single ICMPv6 type value
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match icmp6 type (number   keyword)</a>
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• dest-unreachable ICMPv6 Destination Unreachable</li> <li>• packet-too-big ICMPv6 Packet Too Big</li> <li>• time-exceeded ICMPv6 Time Exceeded</li> <li>• param-problem Parameter Problem</li> <li>• echo-request ICMPv6 Echo Request</li> </ul>

- echo-reply  
ICMPv6 Echo Reply
- mld-query  
Multicast Listener Discovery Query
- mld-report  
Multicast Listener Discovery Report
- mld-done  
Multicast Listener Discovery Done
- router-solicit  
ICMPv6 Router Solicitation
- router-advertise  
ICMPv6 Router Advertisement
- neighbor-solicit  
ICMPv6 Neighbor Solicitation
- neighbor-advertise  
ICMPv6 Neighbor Advertisement
- redirect  
ICMPv6 Redirect
- router-renumber  
ICMPv6 Router Renumbering
- node-info-query  
ICMPv6 Node Information Query
- node-info-response  
ICMPv6 Node Information Response
- mld-v2  
Multicast Listener Discovery Version 2
- mcast-rtr-adv  
Multicast Router Advertisement
- mcast-rtr-solicit  
Multicast Router Solicitation
- mcast-rtr-term  
Multicast Router Termination

**Configurable**  
**Platforms**

True  
Supported on all platforms

**next-header** (*number* | *keyword*)

<b>Description</b>	An IPv6 packet matches this condition if its first next-header field (in the IPv6 fixed header) contains the specified value
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">next-header</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">next-header</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>ipv6-hop</code> IPv6 hop-by-hop option</li> <li>• <code>icmp</code> Internet Control Message Protocol</li> <li>• <code>igmp</code> Internet Group Management Protocol</li> <li>• <code>ggp</code> Gateway-to-Gateway Protocol</li> <li>• <code>ipv4</code> IPv4 encapsulation</li> <li>• <code>st</code> Stream Protocol</li> <li>• <code>tcp</code> Transmission Control Protocol</li> <li>• <code>egp</code> Exterior Gateway Protocol</li> <li>• <code>igp</code> Interior Gateway Protocol</li> <li>• <code>udp</code> User Datagram Protocol</li> <li>• <code>ipv6</code> IPv6 encapsulation</li> <li>• <code>idrp</code> Inter-Domain Routing Protocol</li> <li>• <code>rsvp</code> Resource Reservation Protocol</li> <li>• <code>gre</code> Generic Routing Encapsulation</li> <li>• <code>esp</code></li> </ul>

## IPSec Encapsulating Security Payload

- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable**

True

**Platforms**

Supported on all platforms

**source-ip****Description**

Packet matching criteria based on source IPv6 address

**Context**[acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) *number* [match](#) [source-ip](#)**Tree**[source-ip](#)**Configurable**

True

**Platforms**

Supported on all platforms

**address string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match source-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match source-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### operator *keyword*

**Description** Comparison operator  
eq = equal ge = greater than or equal to le = less than or equal to

**Context** [acl cpm-filter ipv6-filter entry sequence-id number match source-port operator keyword](#)

**Tree** [operator](#)

**Options**

- le  
Less than or equal.
- ge  
Greater than or equal.
- eq  
Equal to.

**Configurable** True

**Platforms** Supported on all platforms

### range

**Description** Container used to specify a contiguous range of TCP/UDP port numbers

**Context** [acl cpm-filter ipv6-filter entry sequence-id number match source-port range](#)

**Tree** [range](#)

**Configurable** True

**Platforms** Supported on all platforms

### end (*number* | *keyword*)

**Description** The ending port number to include in the range

**Context** [acl cpm-filter ipv6-filter entry sequence-id number match source-port range end \(number | keyword\)](#)

**Tree** [end](#)

**Range** 0 to 65535

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp



- 
- Apple Filing Protocol over TCP
  - arns
  - A Remote Network Server System
  - asf-rmcp
  - ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
  - ashare
  - AppleShare IP Web Administration
  - atalk-rm
  - AppleTalk Routing Maintenance
  - aurp
  - AppleTalk Update-Based Routing Protocol
  - auth
  - Authentication Service
  - bfd
  - Bidirectional Forwarding Detection Single Hop
  - bfd-echo
  - BFDD Echo
  - bftp
  - Background File Transfer Program
  - bgmp
  - Border Gateway Multicast Protocol
  - bgp
  - Border Gateway Protocol
  - bootpc
  - Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps
  - Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns
  - CCSO Nameserver
  - chargen
  - Character Generator Protocol (CHARGEN)
  - cisco-tdp
  - Cisco Tag Distribution Protocol
  - citadel
  - Citadel

- 
- clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control

- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)

- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap

- 
- Lightweight Directory Access Protocol (LDAP)
  - Idaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - Idp  
Label Distribution Protocol
  - Imp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange

- 
- MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol
  - netbios-data  
NetBIOS Datagram Service
  - netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp

- 
- Network Time Protocol (NTP)
  - odmr  
On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs

- 
- Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp



- 
- Simple Network Paging Protocol (SNPP)
  - smtp
    - Simple Mail Transfer Protocol (SMTP)
  - sql-svcs
    - Structured Query Language (SQL) Services
  - sql
    - Structured Query Language (SQL) Service
  - ssh
    - Secure Shell Protocol
  - submission
    - Email message submission (SMTP)
  - sunrpc
    - Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc
    - Service Location Protocol (SLP)
  - syslog
    - Syslog (UDP) and Remote Shell (TCP)
  - systat
    - Active Users (systat service)
  - tacacs
    - TACACS Login Host protocol
  - talk
    - Talk
  - tcpmux
    - TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv
    - tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp
    - Trivial File Transfer Protocol (TFTP)
  - time
    - Time Protocol
  - timed
    - Timeserver
  - ups
    - Uninterruptible power supply (UPS)

- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">range</a> <a href="#">start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aarp AppleTalk Update-Based Routing Protocol</li> <li>• auth Authentication Service</li> </ul>

- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol

- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol

- 
- gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP

- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm

- 
- Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3

- NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3



- 
- Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor

- 
- rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC

- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**  
**Platforms**

True  
Supported on all platforms

**value** (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">acap</a> Application Configuration Access Protocol</li> <li>• <a href="#">afp-tcp</a> Apple Filing Protocol over TCP</li> <li>• <a href="#">arns</a> A Remote Network Server System</li> <li>• <a href="#">asf-rmcp</a> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <a href="#">ashare</a> AppleShare IP Web Administration</li> <li>• <a href="#">atalk-rm</a> AppleTalk Routing Maintenance</li> <li>• <a href="#">aurp</a> AppleTalk Update-Based Routing Protocol</li> <li>• <a href="#">auth</a> Authentication Service</li> <li>• <a href="#">bfd</a> Bidirectional Forwarding Detection Single Hop</li> <li>• <a href="#">bfd-echo</a> BFD Echo</li> <li>• <a href="#">bftp</a> Background File Transfer Program</li> <li>• <a href="#">bgmp</a> Border Gateway Multicast Protocol</li> <li>• <a href="#">bgp</a> Border Gateway Protocol</li> <li>• <a href="#">bootpc</a> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <a href="#">bootps</a></li> </ul>

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- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp

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- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt

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- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor



- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts

- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol

- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms

**tcp-flags string****Description**

A logical expression using the &amp;, | and ! logical operators and the TCP flag names: rst, syn and ack.

**Context**[acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) [number](#) [match](#) [tcp-flags](#) [string](#)**Tree**[tcp-flags](#)**Configurable**

True

**Platforms**

Supported on all platforms

**statistics****Description**

Statistics container for packets matching the CPM-filter entry

**Context**[acl](#) [cpm-filter](#) [ipv6-filter](#) [entry](#) [sequence-id](#) [number](#) [statistics](#)**Tree**[statistics](#)**Configurable**

False

**Platforms** Supported on all platforms

### distributed-policer

**Description** Distributed policer stats for traffic matching the entry.

**Context** [acl cpm-filter ipv6-filter entry sequence-id number statistics distributed-policer](#)

**Tree** [distributed-policer](#)

**Configurable** False

**Platforms** Supported on all platforms except 7220

### conforming-octets *number*

**Description** The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.

**Context** [acl cpm-filter ipv6-filter entry sequence-id number statistics distributed-policer conforming-octets number](#)

**Tree** [conforming-octets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms except 7220

### conforming-packets *number*

**Description** The number of packets (actually Ethernet frames) that were considered conforming by the policer

**Context** [acl cpm-filter ipv6-filter entry sequence-id number statistics distributed-policer conforming-packets number](#)

**Tree** [conforming-packets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms except 7220

### exceeding-octets *number*

**Description** The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.

<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number statistics distributed-policer exceeding-octets number</a>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number statistics distributed-policer exceeding-packets number</a>
<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-match** *string*

<b>Description</b>	The elapsed time since a packet last matched the entry, considering all subinterfaces and all linecards.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number statistics last-match string</a>
<b>Tree</b>	<a href="#">last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**matched-packets** *number*

<b>Description</b>	The number of packets matching the entry since it was programmed or since the last clear, summed across all subinterfaces and all linecards
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">statistics matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**system-cpu-policer**

<b>Description</b>	System CPU policer stats for traffic matching the entry.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">statistics system-cpu-policer</a>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**conforming-octets** *number*

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">statistics system-cpu-policer conforming-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**conforming-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">statistics system-cpu-policer conforming-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">conforming-packets</a>



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<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **exceeding-octets** *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">system-cpu-policer</a> <a href="#">exceeding-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">system-cpu-policer</a> <a href="#">exceeding-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tcam-entries** *number*

<b>Description</b>	The number of TCAM entries required to implement a single instance of this filter rule.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear *string***

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics-per-entry *boolean***

<b>Description</b>	Collect the following statistics per entry: the number of packets matching each entry, and the elapsed time since a packet last matched each entry
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter statistics-per-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">statistics-per-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac-filter**

<b>Description</b>	Top level container for CPM MAC filter
<b>Context</b>	<a href="#">acl cpm-filter mac-filter</a>
<b>Tree</b>	<a href="#">mac-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**entry [sequence-id](#) *number***

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry</a> <a href="#">sequence-id</a> <i>number</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**sequence-id *number***

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**action**

<b>Description</b>	Container for the actions to be applied to packets matching the CPM filter entry.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**accept**

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number action accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**log *boolean***

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number action accept log boolean</a>
<b>Tree</b>	<a href="#">log</a>

<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### rate-limit

<b>Description</b>	Rate-limit accepted packets
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">mac-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a> <a href="#">rate-limit</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### policer *reference*

<b>Description</b>	Reference to a policer
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">mac-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a> <a href="#">rate-limit</a> <a href="#">policer</a> <i>reference</i>
<b>Tree</b>	<a href="#">policer</a>
<b>Reference</b>	<a href="#">acl</a> <a href="#">policers</a> <a href="#">policer</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220

### system-cpu-policer *reference*

<b>Description</b>	Reference to a system-cpu-policer.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">mac-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a> <a href="#">rate-limit</a> <a href="#">system-cpu-policer</a> <i>reference</i>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Reference</b>	<a href="#">acl</a> <a href="#">policers</a> <a href="#">system-cpu-policer</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### drop

<b>Description</b>	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
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<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### log *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number action drop log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### description *string*

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### match

<b>Description</b>	Container for the conditions that determine whether an Ethernet frame matches this entry
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### destination-mac

**Description** Ethernet frame matching criteria based on destination MAC address

**Context** [acl cpm-filter mac-filter entry sequence-id number match destination-mac](#)

**Tree** [destination-mac](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### address *string*

**Description** Match an Ethernet frame if its destination MAC address logically anded with the mask equals this MAC address.

**Context** [acl cpm-filter mac-filter entry sequence-id number match destination-mac address string](#)

**Tree** [address](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### mask *string*

**Description** Match an Ethernet frame if its destination MAC address logically anded with the mask equals the configured MAC address.

**Context** [acl cpm-filter mac-filter entry sequence-id number match destination-mac mask string](#)

**Tree** [mask](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### ethertype (*string* | *keyword*)

**Description** An Ethernet frame matches this condition if its ethertype value (after 802.1Q VLAN tags) matches the specified value

---

<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">mac-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">ethertype</a> ( <i>string</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">ethertype</a>
<b>Options</b>	<ul style="list-style-type: none"><li>• <a href="#">ipv4</a> Internet Protocol version 4. Ethertype 0x0800.</li><li>• <a href="#">arp</a> Address Resolution Protocol. Ethertype 0x0806.</li><li>• <a href="#">ipv6</a> Internet Protocol version 6. Ethertype 0x86DD.</li><li>• <a href="#">flow-control</a> Ethernet flow control PAUSE frames. Ethertype 0x8808</li><li>• <a href="#">lACP</a> LACP. Ethertype 0x8809.</li><li>• <a href="#">mpls-unicast</a> MPLS unicast. Ethertype 0x8847.</li><li>• <a href="#">mpls-multicast</a> MPLS multicast. Ethertype 0x8848.</li><li>• <a href="#">pppoe-discovery</a> PPPoE discovery. Ethertype 0x8863.</li><li>• <a href="#">pppoe-session</a> PPPoE session. Ethertype 0x8864.</li><li>• <a href="#">8021x-authentication</a> 802.1x authentication (EAP). Ethertype 0x888E.</li><li>• <a href="#">lldp</a> Link Layer Discovery Protocol. Ethertype 0x88CC.</li><li>• <a href="#">macsec</a> IEEE 802.1AE MAC security. Ethertype 0x88E5.</li><li>• <a href="#">pbb</a> Provider Backbone Bridging. Ethertype 0x88E7.</li><li>• <a href="#">ptp</a> Precision Time Protocol. Ethertype 0x88F7.</li><li>• <a href="#">eth-oam</a> IEEE 802.1ag CFM and ITU-T Y.1731 OAM. Ethertype 0x8902.</li><li>• <a href="#">fcoe</a> Fibre Channel over Ethernet. Ethertype 0x8906.</li><li>• <a href="#">fcoe-initialization</a></li></ul>

Fibre Channel over Ethernet Initialization Protocol. Ethertype 0x8914.

- roce

RDMA over Converged Ethernet. Ethertype 0x8915.

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## source-mac

**Description** Ethernet frame matching criteria based on source MAC address

**Context** [acl cpm-filter mac-filter entry sequence-id number match source-mac](#)

**Tree** [source-mac](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## address *string*

**Description** Match an Ethernet frame if its source MAC address logically anded with the mask equals this MAC address.

**Context** [acl cpm-filter mac-filter entry sequence-id number match source-mac address string](#)

**Tree** [address](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mask *string*

**Description** Match an Ethernet frame if its source MAC address logically anded with the mask equals the configured MAC address.

**Context** [acl cpm-filter mac-filter entry sequence-id number match source-mac mask string](#)

**Tree** [mask](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2



**vlan**

<b>Description</b>	Ethernet frame matching criteria based on VLAN tags
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number match vlan</a>
<b>Tree</b>	<a href="#">vlan</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**outermost-vlan-id**

<b>Description</b>	Ethernet frame matching criteria based on the outermost VLAN ID found before the subinterface-defining VLAN tag (if any) is removed.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id</a>
<b>Tree</b>	<a href="#">outermost-vlan-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**none**

<b>Description</b>	When configured, only untagged frames are matched.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id none</a>
<b>Tree</b>	<a href="#">none</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operator *keyword***

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id operator <i>keyword</i></a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le</li> </ul>

Less than or equal.

- ge

Greater than or equal.

- eq

Equal to.

**Configurable**

True

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## range

**Description**

Container used to specify a contiguous range of VLAN IDs. Matched values include the start and end values.

**Context**

[acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id range](#)

**Tree**

[range](#)

**Configurable**

True

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## end number

**Description**

The ending VLAN ID to include in the range

**Context**

[acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id range end number](#)

**Tree**

[end](#)

**Range**

0 to 4095

**Configurable**

True

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## start number

**Description**

The starting VLAN ID to include in the range

**Context**

[acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id range start number](#)

**Tree**

[start](#)

**Range**

0 to 4095

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**value number**

<b>Description</b>	A VLAN ID number A value of zero is used to match priority-tagged 802.1Q frames.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number match vlan outermost-vlan-id value number</a>
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**statistics**

<b>Description</b>	Statistics container for packets matching the CPM-filter entry
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**distributed-policer**

<b>Description</b>	Distributed policer stats for traffic matching the entry.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics distributed-policer</a>
<b>Tree</b>	<a href="#">distributed-policer</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

**conforming-octets number**

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
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<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics distributed-policer conforming-octets number</a>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **conforming-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics distributed-policer conforming-packets number</a>
<b>Tree</b>	<a href="#">conforming-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **exceeding-octets** *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics distributed-policer exceeding-octets number</a>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics distributed-policer exceeding-packets number</a>
<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** Supported on all platforms except 7220

### **last-clear** *string*

**Description** Time of the last clear command performed by the user at this level

**Context** [acl](#) [cpm-filter](#) [mac-filter](#) [entry](#) [sequence-id](#) [number](#) [statistics](#) [last-clear](#) *string*

**Tree** [last-clear](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-match** *string*

**Description** The elapsed time since a packet last matched the entry, considering all subinterfaces and all linecards.

**Context** [acl](#) [cpm-filter](#) [mac-filter](#) [entry](#) [sequence-id](#) [number](#) [statistics](#) [last-match](#) *string*

**Tree** [last-match](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **matched-packets** *number*

**Description** The number of packets matching the entry since it was programmed or since the last clear, summed across all subinterfaces and all linecards

**Context** [acl](#) [cpm-filter](#) [mac-filter](#) [entry](#) [sequence-id](#) [number](#) [statistics](#) [matched-packets](#) *number*

**Tree** [matched-packets](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **system-cpu-policer**

**Description** System CPU policer stats for traffic matching the entry.

<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics system-cpu-policer</a>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### conforming-octets *number*

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics system-cpu-policer conforming-octets number</a>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### conforming-packets *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics system-cpu-policer conforming-packets number</a>
<b>Tree</b>	<a href="#">conforming-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### exceeding-octets *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics system-cpu-policer exceeding-octets number</a>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics system-cpu-policer exceeding-packets number</a>
<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **tcam-entries** *number*

<b>Description</b>	The number of TCAM entries required to implement a single instance of this filter rule.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number tcam-entries number</a>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl cpm-filter mac-filter last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**statistics-per-entry** *boolean*

<b>Description</b>	Collect the following statistics per entry: the number of packets matching each entry, and the elapsed time since a packet last matched each entry
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">mac-filter</a> <a href="#">statistics-per-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">statistics-per-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**datapath-programming**

<b>Description</b>	Container to represent the progress of ACL datapath programming
<b>Context</b>	<a href="#">acl</a> <a href="#">datapath-programming</a>
<b>Tree</b>	<a href="#">datapath-programming</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**forwarding-complex** [slot-id](#) *number* [complex-id](#) *number*

<b>Description</b>	List of forwarding complexes that are currently installed and online
<b>Context</b>	<a href="#">acl</a> <a href="#">datapath-programming</a> <a href="#">forwarding-complex</a> <a href="#">slot-id</a> <i>number</i> <a href="#">complex-id</a> <i>number</i>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**slot-id** *number*

<b>Description</b>	The slot id
<b>Context</b>	<a href="#">acl</a> <a href="#">datapath-programming</a> <a href="#">forwarding-complex</a> <a href="#">slot-id</a> <i>number</i> <a href="#">complex-id</a> <i>number</i>
<b>Range</b>	1 to 8
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**complex-id** *number*

<b>Description</b>	The complex id
<b>Context</b>	<a href="#">acl datapath-programming forwarding-complex slot-id</a> <i>number</i> <a href="#">complex-id</a> <i>number</i>
<b>Range</b>	0 to 1
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-completed-timestamp** *string*

<b>Description</b>	The date and time when the forwarding complex last completed all datapath programming related to prior ACL configuration changes.
<b>Context</b>	<a href="#">acl datapath-programming forwarding-complex slot-id</a> <i>number</i> <a href="#">complex-id</a> <i>number</i> <a href="#">last-completed-timestamp</a> <i>string</i>
<b>Tree</b>	<a href="#">last-completed-timestamp</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**programming-complete** *boolean*

<b>Description</b>	Reads false when there are still pending entries to program from prior configuration transactions Reads true when all datapath programming related to all prior ACL configuration changes is complete
<b>Context</b>	<a href="#">acl datapath-programming forwarding-complex slot-id</a> <i>number</i> <a href="#">complex-id</a> <i>number</i> <a href="#">programming-complete</a> <i>boolean</i>
<b>Tree</b>	<a href="#">programming-complete</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**egress-mac-filtering** *boolean*

<b>Description</b>	Must be set to true in order to apply any MAC ACLs to any subinterface in the egress traffic direction. Internally this sets the following limits: Remember that the number of ACL instances per ACL policy is greater than one if subinterface-specific is set to input-and-output or output-only.
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A setting of true is blocked if the number of IPv4 ACL instances applied to egress traffic is already greater than 32, or if the number of IPv6 ACL instances applied to egress traffic is already greater than 32.

<b>Context</b>	<a href="#">acl egress-mac-filtering</a> <i>boolean</i>
<b>Tree</b>	<a href="#">egress-mac-filtering</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv4-filter** *name string*

<b>Description</b>	List of IPv4 filter policies
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **name** *string*

<b>Description</b>	Name of the IPv4 filter policy.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **description** *string*

<b>Description</b>	Description string for the IPv4 filter policy
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry** *sequence-id number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**action**

<b>Description</b>	Container for the actions to be applied to packets matching the filter entry.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**accept**

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">action accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**forwarding-class** (*keyword* | *reference*)

<b>Description</b>	The QoS forwarding class to which the packet is mapped
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<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action accept forwarding-class</a> ( <i>keyword</i>   <i>reference</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"><li>• <a href="#">fc0</a> System default forwarding-class name for the FC with index 0</li><li>• <a href="#">fc1</a> System default forwarding-class name for the FC with index 1</li><li>• <a href="#">fc2</a> System default forwarding-class name for the FC with index 2</li><li>• <a href="#">fc3</a> System default forwarding-class name for the FC with index 3</li><li>• <a href="#">fc4</a> System default forwarding-class name for the FC with index 4</li><li>• <a href="#">fc5</a> System default forwarding-class name for the FC with index 5</li><li>• <a href="#">fc6</a> System default forwarding-class name for the FC with index 6</li><li>• <a href="#">fc7</a> System default forwarding-class name for the FC with index 7</li><li>• <a href="#">fc8</a> System default forwarding-class name for the FC with index 8</li><li>• <a href="#">fc9</a> System default forwarding-class name for the FC with index 9</li><li>• <a href="#">fc10</a> System default forwarding-class name for the FC with index 10</li><li>• <a href="#">fc11</a> System default forwarding-class name for the FC with index 11</li><li>• <a href="#">fc12</a> System default forwarding-class name for the FC with index 12</li><li>• <a href="#">fc13</a> System default forwarding-class name for the FC with index 13</li><li>• <a href="#">fc14</a> System default forwarding-class name for the FC with index 14</li><li>• <a href="#">fc15</a> System default forwarding-class name for the FC with index 15</li></ul>
<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**log** *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action accept</a> <a href="#">log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rate-limit** *reference*

<b>Description</b>	Reference to a policer
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action accept</a> <a href="#">rate-limit reference</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Reference</b>	<a href="#">acl policers policer name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220

**drop**

<b>Description</b>	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**log** *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action drop log</a> <i>boolean</i>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**description** *string*

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match**

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-ip**

<b>Description</b>	Packet matching criteria based on destination IPv4 address
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### address *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl ipv4-filter name <i>string</i> entry sequence-id <i>number</i> match destination-ip address <i>string</i></a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mask *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl ipv4-filter name <i>string</i> entry sequence-id <i>number</i> match destination-ip mask <i>string</i></a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### prefix *string*

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl ipv4-filter name <i>string</i> entry sequence-id <i>number</i> match destination-ip prefix <i>string</i></a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### destination-port

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
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<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">match</a> <a href="#">destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### operator *keyword*

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <a href="#">number</a> <a href="#">match</a> <a href="#">destination-port</a> <a href="#">range</a> <a href="#">end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>



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<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b> Authentication Service</li> <li>• <b>bfd</b> Bidirectional Forwarding Detection Single Hop</li> <li>• <b>bfd-echo</b> BFD Echo</li> <li>• <b>bftp</b> Background File Transfer Program</li> <li>• <b>bgmp</b> Border Gateway Multicast Protocol</li> <li>• <b>bgp</b> Border Gateway Protocol</li> <li>• <b>bootpc</b> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <b>bootps</b> Bootstrap Protocol (BOOTP) Server and DHCP Server</li> <li>• <b>ccso-ns</b> CCSO Nameserver</li> <li>• <b>chargen</b> Character Generator Protocol (CHARGEN)</li> </ul>

- 
- cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)

- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL

- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell

- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server

- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)

- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol

- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)



- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver

	<ul style="list-style-type: none"> <li>• ups Uninterruptible power supply (UPS)</li> <li>• xdmcp X Display Manager Control Protocol (XDMCP)</li> <li>• xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>• xns-mail Xerox Network Systems (XNS) Mail</li> <li>• xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>• z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aurp AppleTalk Update-Based Routing Protocol</li> </ul>

- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server

- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)

- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)

- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping

- 
- MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2

- NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2



- Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc

- 
- IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc

- Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms

**value** (*number* | *keyword*)

<b>Description</b>	A destination port number
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>acap</code> Application Configuration Access Protocol</li> <li>• <code>afp-tcp</code> Apple Filing Protocol over TCP</li> <li>• <code>arns</code> A Remote Network Server System</li> <li>• <code>asf-rmcp</code> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <code>ashare</code> AppleShare IP Web Administration</li> <li>• <code>atalk-rm</code> AppleTalk Routing Maintenance</li> <li>• <code>aurp</code> AppleTalk Update-Based Routing Protocol</li> <li>• <code>auth</code> Authentication Service</li> <li>• <code>bfd</code> Bidirectional Forwarding Detection Single Hop</li> <li>• <code>bfd-echo</code> BFD Echo</li> <li>• <code>bftp</code> Background File Transfer Program</li> <li>• <code>bgmp</code> Border Gateway Multicast Protocol</li> <li>• <code>bgp</code> Border Gateway Protocol</li> <li>• <code>bootpc</code> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> </ul>

- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol

- 
- epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)

- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor



- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts

- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol

- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
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Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>• CS0</li> <li>• LE</li> <li>• CS1</li> <li>• AF11</li> <li>• AF12</li> <li>• AF13</li> <li>• CS2</li> </ul>

- AF21
- AF22
- AF23
- CS3
- AF31
- AF32
- AF33
- CS4
- AF41
- AF42
- AF43
- CS5
- EF
- CS6
- CS7

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**first-fragment** *boolean***Description**

Match the first fragment of an IPv4 datagram

A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and the more-fragments bit is 1. It is not valid to configure this leaf without configuring a match value for the fragment leaf.

**Context**

[acl ipv4-filter name string entry sequence-id number match first-fragment boolean](#)

**Tree**

[first-fragment](#)

**Configurable**

True

**Platforms**

Supported on all platforms

**fragment** *boolean***Description**

Match an IPv4 fragment

A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and the more-fragments bit is 1 or if the IPv4

header indicates that the fragment-offset is greater than 0. A packet matches the false condition if it is unfragmented.

<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match fragment</a> <i>boolean</i>
<b>Tree</b>	<a href="#">fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## icmp

<b>Description</b>	A packet matches this condition if its ICMP type and code matches one of the specified combinations  The rule should also have a condition that the IP protocol equals 1 (ICMP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match icmp</a>
<b>Tree</b>	<a href="#">icmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## code *number*

<b>Description</b>	Match if the ICMP code value is any value in the list  Requires ICMP type to be specified because codes are type dependent.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match icmp code</a> <i>number</i>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## type (*number* | *keyword*)

<b>Description</b>	Match a single ICMP type value.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match icmp type</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>echo-reply ICMP Echo Reply</li> </ul>

- dest-unreachable  
ICMP Destination Unreachable
- source-quench  
ICMP Source Quench
- redirect  
ICMP Redirect
- echo  
ICMP Echo
- router-advertise  
ICMP Router Advertisement
- router-solicit  
ICMP Router Solicitation
- time-exceeded  
ICMP Time Exceeded
- param-problem  
ICMP Parameter Problem
- timestamp  
ICMP Timestamp
- timestamp-reply  
ICMP Timestamp Reply

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **protocol** (*number* | *keyword*)

<b>Description</b>	An IPv4 packet matches this condition if its IP protocol type field matches the specified value
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match protocol</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">protocol</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv6-hop IPv6 hop-by-hop option</li> <li>• icmp Internet Control Message Protocol</li> <li>• igmp Internet Group Management Protocol</li> </ul>



- ggp  
Gateway-to-Gateway Protocol
- ipv4  
IPv4 encapsulation
- st  
Stream Protocol
- tcp  
Transmission Control Protocol
- egp  
Exterior Gateway Protocol
- igp  
Interior Gateway Protocol
- udp  
User Datagram Protocol
- ipv6  
IPv6 encapsulation
- idrp  
Inter-Domain Routing Protocol
- rsvp  
Resource Reservation Protocol
- gre  
Generic Routing Encapsulation
- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3

- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable** True  
**Platforms** Supported on all platforms

### source-ip

**Description** Packet matching criteria based on source IPv4 address  
**Context** [acl ipv4-filter name string entry sequence-id number match source-ip](#)  
**Tree** [source-ip](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### address *string*

**Description** Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.  
**Context** [acl ipv4-filter name string entry sequence-id number match source-ip address string](#)  
**Tree** [address](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### mask *string*

**Description** Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.

<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number match source-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **operator keyword**

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number match source-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> </ul>

	<ul style="list-style-type: none"> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port range end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aarp AppleTalk Update-Based Routing Protocol</li> <li>• auth</li> </ul>

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### Authentication Service

- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover

- DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime

- GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep

- 
- IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell
  - l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
  - ldap  
Lightweight Directory Access Protocol (LDAP)
  - ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - ldp  
Label Distribution Protocol
  - lmp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo



- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol

- 
- netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol
  - netbios-data  
NetBIOS Datagram Service
  - netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp  
Network Time Protocol (NTP)
  - odmr  
On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)

- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
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- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol

- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
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Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
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Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC

- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**  
**Platforms**

True  
Supported on all platforms

**start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">range</a> <b>start</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b> Authentication Service</li> <li>• <b>bfd</b> Bidirectional Forwarding Detection Single Hop</li> <li>• <b>bfd-echo</b> BFD Echo</li> <li>• <b>bftp</b> Background File Transfer Program</li> <li>• <b>bgmp</b> Border Gateway Multicast Protocol</li> <li>• <b>bgp</b> Border Gateway Protocol</li> <li>• <b>bootpc</b> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <b>bootps</b></li> </ul>

- 
- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp

- 
- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt



- 
- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
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- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor

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NETRJS protocol
- netrjs-4  
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RLZ DBase
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rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
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rsync file synchronization protocol
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Remote User Telnet Service (RTelnet)
- rtsp  
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- sql  
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TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
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- time  
Time Protocol
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Timeserver
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Uninterruptible power supply (UPS)
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X Display Manager Control Protocol (XDMCP)
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Xerox Network Systems (XNS) Mail
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- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> </ul>

- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
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- daytime  
Daytime Protocol
- dhcpv6-client  
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Digital Imaging and Communications in Medicine
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Discard Protocol. Also Wake-on-LAN.
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- ftp  
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FTPS (FTP over SSL/TLS) control
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- 
- godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
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Label Distribution Protocol
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    - rlogin (TCP) or Who (UDP)
  - lpd
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  - lsp-ping
    - MPLS LSP-echo
  - mac-server-adm
    - Mac OS X Server administration
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    - Mapping of Airline Traffic over Internet Protocol (MATIP) type B
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    - Microsoft Directory Services
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    - Mobile IP Agent
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- Remote Job Entry
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Simple Mail Transfer Protocol (SMTP)
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Structured Query Language (SQL) Services
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- Structured Query Language (SQL) Service
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  - syslog  
Syslog (UDP) and Remote Shell (TCP)
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  - talk  
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  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
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Timeserver
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Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail  
Xerox Network Systems (XNS) Mail



- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### tcp-flags *string*

<b>Description</b>	A logical expression using the &,   and ! logical operators and the TCP flag names: rst, syn and ack.
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number match tcp-flags string</a>
<b>Tree</b>	<a href="#">tcp-flags</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### statistics

<b>Description</b>	Container for per-entry statistics
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### aggregate

<b>Description</b>	Container for aggregated per-entry statistics. Not present if the entry is part of a filter with statistics-per-entry set to false.
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics aggregate</a>
<b>Tree</b>	<a href="#">aggregate</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-last-match** *string*

<b>Description</b>	The elapsed time since an ingress packet last matched the entry, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an input ACL
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate in-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">in-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-matched-packets** *number*

<b>Description</b>	The number of ingress packets matching the entry since it was programmed or since the last clear, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an input ACL
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate in-matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-last-match** *string*

<b>Description</b>	The elapsed time since an egress packet last matched the entry, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an output ACL
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate out-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">out-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-matched-packets** *number*

<b>Description</b>	The number of egress packets matching the entry since it was programmed or since the last clear, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an output ACL
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics aggregate out-matched-packets number</a>
<b>Tree</b>	<a href="#">out-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level or a higher level
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**per-interface**

<b>Description</b>	Container for per-entry statistics on a per subinterface basis.
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics per-interface</a>
<b>Tree</b>	<a href="#">per-interface</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**subinterface** *name string*

<b>Description</b>	If subinterface-specific=disabled then this list is empty. If subinterface-specific=input-only then this is the list of subinterfaces that apply the ACL as an input ACL If subinterface-specific=output-only then this is the list of subinterfaces that apply the ACL as an output ACL.
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If subinterface-specific=input-and-output then this is the list of subinterfaces that apply the ACL as an input ACL or an output ACL.

<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **name** *string*

<b>Description</b>	Reference to a subinterface.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-last-match** *string*

<b>Description</b>	The elapsed time since an ingress packet last matched the entry on this specific subinterface. Updated only if subinterface-specific is set to input-only or input-and-output
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">in-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">in-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-matched-packets** *number*

<b>Description</b>	The number of ingress packets matching the entry on this specific subinterface. Incremented only if subinterface-specific is set to input-only or input-and-output
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">in-matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **last-clear** *string*

**Description** Time of the last clear command performed by the user at this level or a higher level

**Context** [acl ipv4-filter name](#) *string* [entry sequence-id](#) *number* [statistics per-interface subinterface name](#) *string* **last-clear** *string*

**Tree** [last-clear](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **out-last-match** *string*

**Description** The elapsed time since an egress packet last matched the entry on this specific subinterface. Updated only if subinterface-specific is set to output-only or input-and-output

**Context** [acl ipv4-filter name](#) *string* [entry sequence-id](#) *number* [statistics per-interface subinterface name](#) *string* **out-last-match** *string*

**Tree** [out-last-match](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **out-matched-packets** *number*

**Description** The number of egress packets matching the entry on this specific subinterface. Incremented only if subinterface-specific is set to output-only or input-and-output

**Context** [acl ipv4-filter name](#) *string* [entry sequence-id](#) *number* [statistics per-interface subinterface name](#) *string* **out-matched-packets** *number*

**Tree** [out-matched-packets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

**tcam-entries**

<b>Description</b>	Information about the TCAM entries used to implement the ACL entry
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**forwarding-complex** [complex-identifier](#) *string*

<b>Description</b>	List of forwarding complexes in the system
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**complex-identifier** *string*

<b>Description</b>	A forwarding complex in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**input-total** *number*

<b>Description</b>	<p>The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to ingress traffic.</p> <p>For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then input-total=2. If the entry is not applied to ingress traffic on any subinterfaces of this complex then input-total=0.</p>
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i> <a href="#">input-total</a> <i>number</i>
<b>Tree</b>	<a href="#">input-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**output-total** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to egress traffic.  For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then output-total=10. If the entry is not applied to egress traffic on any subinterfaces of this complex then output-total=0.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i> <b>output-total</b> <i>number</i>
<b>Tree</b>	<a href="#">output-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**single-instance** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry if it is applied to only one subinterface and one traffic direction specific to this slot.  This is non-zero even if the filter is not applied to any subinterfaces of this complex. It captures the effect of TCAM entry expansion to deal with L4 port or VLAN ranges, for example.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i> <b>single-instance</b> <i>number</i>
<b>Tree</b>	<a href="#">single-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <b>last-clear</b> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics-per-entry** *boolean*

<b>Description</b>	Collect statistics for each entry of the ACL. If this is set to false no hardware resources are allocated to collecting statistics for this ACL policy. The exact set of statistics depend on the subinterface-specific mode
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">statistics-per-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">statistics-per-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subinterface-specific** *keyword*

<b>Description</b>	Controls the instantiation of the filter when it is applied as an input or output ACL  disabled: all subinterfaces on a single linecard that reference the ACL as an input ACL use a shared filter instance, and all subinterfaces on a single linecard that reference the ACL as an output ACL use a shared filter instance  input-only: all subinterfaces on a single linecard that reference the ACL as an output ACL use a shared filter instance, but each subinterface that references the ACL as an input ACL uses its own separate instance of the filter  output-only: all subinterfaces on a single linecard that reference the ACL as an input ACL use a shared filter instance, but each subinterface that references the ACL as an output ACL uses its own separate instance of the filter  input-and-output: each subinterface that references the ACL as either an input ACL or an output ACL uses its own separate instance of the filter
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">subinterface-specific</a> <i>keyword</i>
<b>Tree</b>	<a href="#">subinterface-specific</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>• disabled</li> <li>• input-only</li> <li>• output-only</li> <li>• input-and-output</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**ipv6-filter** *name string*

<b>Description</b>	List of IPv6 filter policies
<b>Context</b>	<a href="#">acl ipv6-filter name string</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the IPv6 filter policy.
<b>Context</b>	<a href="#">acl ipv6-filter name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**description** *string*

<b>Description</b>	Description string for the IPv6 filter policy
<b>Context</b>	<a href="#">acl ipv6-filter name string description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry** *sequence-id number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries.
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<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## action

<b>Description</b>	Container for the actions to be applied to packets matching the filter entry.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## accept

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## forwarding-class (*keyword* | *reference*)

<b>Description</b>	The QoS forwarding class to which the packet is mapped
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">accept</a> <a href="#">forwarding-class</a> ( <i>keyword</i>   <i>reference</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4</li> </ul>

- System default forwarding-class name for the FC with index 4
- fc5
- System default forwarding-class name for the FC with index 5
- fc6
- System default forwarding-class name for the FC with index 6
- fc7
- System default forwarding-class name for the FC with index 7
- fc8
- System default forwarding-class name for the FC with index 8
- fc9
- System default forwarding-class name for the FC with index 9
- fc10
- System default forwarding-class name for the FC with index 10
- fc11
- System default forwarding-class name for the FC with index 11
- fc12
- System default forwarding-class name for the FC with index 12
- fc13
- System default forwarding-class name for the FC with index 13
- fc14
- System default forwarding-class name for the FC with index 14
- fc15
- System default forwarding-class name for the FC with index 15

**Reference** [qos forwarding-classes forwarding-class name](#) *string*

**Configurable** True

**Platforms** Supported on all platforms except 7220 IXR-D1

## log *boolean*

**Description** When this is true, a log is created for each packet matching the entry  
 For IP packets matched by an IP filter entry the log entry contains the following information:  
 For Ethernet packets matched by a MAC filter entry the log entry contains the following information:

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [action](#) [accept](#) [log](#) *boolean*

<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **rate-limit** *reference*

<b>Description</b>	Reference to a policer
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number action accept rate-limit reference</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Reference</b>	<a href="#">acl policers policer name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220

### **drop**

<b>Description</b>	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **log** *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number action drop log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**description** *string*

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match**

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-ip**

<b>Description</b>	Packet matching criteria based on destination IPv6 address
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address** *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">destination-ip</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask** *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">match destination-ip mask</a> <i>string</i>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix** *string*

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">match destination-ip prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**destination-port**

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">match destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**operator** *keyword*

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">match destination-port operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le</li> </ul>

- Less than or equal.
- ge
- Greater than or equal.
- eq
- Equal to.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> </ul>

- 
- aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
  - bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client



- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol

- 
- gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)

- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd

- 
- Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1

- NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp

- 
- PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb

- 
- RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission

- 
- Email message submission (SMTP)
  - sunrpc
    - Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc
    - Service Location Protocol (SLP)
  - syslog
    - Syslog (UDP) and Remote Shell (TCP)
  - systat
    - Active Users (systat service)
  - tacacs
    - TACACS Login Host protocol
  - talk
    - Talk
  - tcpmux
    - TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv
    - tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp
    - Trivial File Transfer Protocol (TFTP)
  - time
    - Time Protocol
  - timed
    - Timeserver
  - ups
    - Uninterruptible power supply (UPS)
  - xdmcp
    - X Display Manager Control Protocol (XDMCP)
  - xns-ch
    - Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail
    - Xerox Network Systems (XNS) Mail
  - xns-time
    - Xerox Network Systems (XNS) Time Protocol
  - z3950
    - ANSI Z39.50



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number match destination-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>acap</code> Application Configuration Access Protocol</li> <li>• <code>afp-tcp</code> Apple Filing Protocol over TCP</li> <li>• <code>arns</code> A Remote Network Server System</li> <li>• <code>asf-rmcp</code> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <code>ashare</code> AppleShare IP Web Administration</li> <li>• <code>atalk-rm</code> AppleTalk Routing Maintenance</li> <li>• <code>aurp</code> AppleTalk Update-Based Routing Protocol</li> <li>• <code>auth</code> Authentication Service</li> <li>• <code>bfd</code> Bidirectional Forwarding Detection Single Hop</li> <li>• <code>bfd-echo</code> BFD Echo</li> <li>• <code>bftp</code> Background File Transfer Program</li> <li>• <code>bgmp</code> Border Gateway Multicast Protocol</li> <li>• <code>bgp</code> Border Gateway Protocol</li> </ul>

- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol

- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol

- 
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
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BFD session over each LAG member link
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Microsoft Directory Services
- mobile-ip  
Mobile IP Agent

- monitor  
Monitor
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NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
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- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
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Netnews

- netwall  
netwall, for Emergency Broadcasts
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new-rwho, new-who
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OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
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Post Office Protocol, version 3 (POP3)
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Precision Time Protocol (PTP) general messages
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- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
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SupportSoft Nexus Remote Command
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Routing Information Protocol
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Remote Job Entry
- rlp  
Resource Location Protocol
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RLZ DBase
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IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)



- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
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- snmp-trap  
SNMP Traps
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Structured Query Language (SQL) Services
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Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)

- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### value (*number* | *keyword*)

<b>Description</b>	A destination port number
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number match destination-port value (number   keyword)</a>
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> </ul>

- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
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CCSO Nameserver
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Character Generator Protocol (CHARGEN)
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Citadel
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ClearCase albd
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Commerce Applications

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Remote Procedure Call
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Daytime Protocol
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Finger protocol
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File Transfer Protocol data
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FTPS (FTP over SSL/TLS) control

- `ftps-data`  
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- `godi`  
Group Domain Of Interpretation (GDOI) protocol
- `gopher`  
Gopher protocol
- `gtp-c`  
GTP control messages (GTP-C)
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GTP prime CDR logging protocol
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GTP user data messages (GTP-U)
- `ha-cluster`  
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Hypertext Transfer Protocol
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FileMaker Web Sharing (HTTP Alternate)
- `http-mgmt`  
`http-mgmt`
- `http-rpc`  
Remote procedure call over Hypertext Transfer Protocol
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## Bidirectional Forwarding Detection Multi-Hop

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NETRJS protocol
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NETRJS protocol
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- odmr  
On-Demand Mail Relay (ODMR)
- olsr



- 
- Optimized Link State Routing (OLSR)
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OpenVPN
  - pim-auto-rp  
PIM Auto-RP
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RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
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Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
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Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>CS0</li> <li>LE</li> <li>CS1</li> <li>AF11</li> <li>AF12</li> <li>AF13</li> <li>CS2</li> <li>AF21</li> <li>AF22</li> <li>AF23</li> <li>CS3</li> <li>AF31</li> <li>AF32</li> <li>AF33</li> <li>CS4</li> <li>AF41</li> <li>AF42</li> <li>AF43</li> <li>CS5</li> </ul>

- EF
- CS6
- CS7

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**icmp6****Description**

A packet matches this condition if its ICMPv6 type and code matches one of the specified combinations

The rule should also have a condition that the next-header value equals 58 (ICMPv6) in order for this to be interpreted correctly.

**Context**

[acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [match icmp6](#)

**Tree**

[icmp6](#)

**Configurable**

True

**Platforms**

Supported on all platforms

**code number****Description**

Match if the ICMPv6 code value is any value in the list

Requires ICMPv6 type to be specified because codes are type dependent.

**Context**

[acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [match icmp6 code number](#)

**Tree**

[code](#)

**Configurable**

True

**Platforms**

Supported on all platforms

**type (number | keyword)****Description**

Match a single ICMPv6 type value

**Context**

[acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [match icmp6 type \(number | keyword\)](#)

**Tree**

[type](#)

**Range**

0 to 255

**Options**

- dest-unreachable

- ICMPv6 Destination Unreachable
  - packet-too-big  
ICMPv6 Packet Too Big
- time-exceeded  
ICMPv6 Time Exceeded
- param-problem  
Parameter Problem
- echo-request  
ICMPv6 Echo Request
- echo-reply  
ICMPv6 Echo Reply
- mld-query  
Multicast Listener Discovery Query
- mld-report  
Multicast Listener Discovery Report
- mld-done  
Multicast Listener Discovery Done
- router-solicit  
ICMPv6 Router Solicitation
- router-advertise  
ICMPv6 Router Advertisement
- neighbor-solicit  
ICMPv6 Neighbor Solicitation
- neighbor-advertise  
ICMPv6 Neighbor Advertisement
- redirect  
ICMPv6 Redirect
- router-renumber  
ICMPv6 Router Renumbering
- node-info-query  
ICMPv6 Node Information Query
- node-info-response  
ICMPv6 Node Information Response
- mld-v2  
Multicast Listener Discovery Version 2
- mcast-rtr-adv

	Multicast Router Advertisement
	• mcast-rtr-solicit
	Multicast Router Solicitation
	• mcast-rtr-term
	Multicast Router Termination
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **next-header** (*number* | *keyword*)

<b>Description</b>	An IPv6 packet matches this condition if its first next-header field (in the IPv6 fixed header) contains the specified value
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match next-header</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">next-header</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv6-hop IPv6 hop-by-hop option</li> <li>• icmp Internet Control Message Protocol</li> <li>• igmp Internet Group Management Protocol</li> <li>• ggp Gateway-to-Gateway Protocol</li> <li>• ipv4 IPv4 encapsulation</li> <li>• st Stream Protocol</li> <li>• tcp Transmission Control Protocol</li> <li>• egp Exterior Gateway Protocol</li> <li>• igp Interior Gateway Protocol</li> <li>• udp User Datagram Protocol</li> </ul>

- ipv6  
IPv6 encapsulation
- idrp  
Inter-Domain Routing Protocol
- rsvp  
Resource Reservation Protocol
- gre  
Generic Routing Encapsulation
- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable  
Platforms**

True  
Supported on all platforms



**source-ip**

<b>Description</b>	Packet matching criteria based on source IPv6 address
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-ip</a>
<b>Tree</b>	<a href="#">source-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address *string***

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-ip</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask *string***

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-ip</a> <a href="#">mask</a> <i>string</i>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix *string***

<b>Description</b>	Match a packet if its source IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-ip</a> <a href="#">prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## source-port

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## operator *keyword*

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port</a> <a href="#">operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port</a> <a href="#">range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**end** (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl</a> <a href="#">ipv6-filter name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a> <a href="#">source-port</a> <a href="#">range</a> <b>end</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">acap</a> Application Configuration Access Protocol</li> <li>• <a href="#">afp-tcp</a> Apple Filing Protocol over TCP</li> <li>• <a href="#">arns</a> A Remote Network Server System</li> <li>• <a href="#">asf-rmcp</a> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <a href="#">ashare</a> AppleShare IP Web Administration</li> <li>• <a href="#">atalk-rm</a> AppleTalk Routing Maintenance</li> <li>• <a href="#">aurp</a> AppleTalk Update-Based Routing Protocol</li> <li>• <a href="#">auth</a> Authentication Service</li> <li>• <a href="#">bfd</a> Bidirectional Forwarding Detection Single Hop</li> <li>• <a href="#">bfd-echo</a> BFD Echo</li> <li>• <a href="#">bftp</a> Background File Transfer Program</li> <li>• <a href="#">bgmp</a> Border Gateway Multicast Protocol</li> <li>• <a href="#">bgp</a> Border Gateway Protocol</li> <li>• <a href="#">bootpc</a> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <a href="#">bootps</a></li> </ul>

- 
- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp

- 
- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt

- 
- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor

- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts



- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol

- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> </ul>

- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call

- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data

- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol

- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp



- 
- Link Management Protocol (LMP)
  - login
    - rlogin (TCP) or Who (UDP)
  - lpd
    - Line Printer Daemon
  - lsp-ping
    - MPLS LSP-echo
  - mac-server-adm
    - Mac OS X Server administration
  - matip-a
    - Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b
    - Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd
    - BFD session over each LAG member link
  - microsoft-ds
    - Microsoft Directory Services
  - mobile-ip
    - Mobile IP Agent
  - monitor
    - Monitor
  - mpp
    - Message posting protocol (MPP)
  - mssql-m
    - Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s
    - Microsoft SQL Server database management system (MSSQL) server
  - msdp
    - Multicast Source Discovery Protocol
  - ms-exchange
    - MS Exchange Routing
  - msp
    - Message Send Protocol
  - multihop-bfd
    - Bidirectional Forwarding Detection Multi-Hop
  - nas

- 
- Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol
  - netbios-data  
NetBIOS Datagram Service
  - netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp  
Network Time Protocol (NTP)
  - odmr  
On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn

- 
- OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje

- 
- Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql

- 
- Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail  
Xerox Network Systems (XNS) Mail

	<ul style="list-style-type: none"> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**value** (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl</a> <a href="#">ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo BFD Echo</li> <li>bftp Background File Transfer Program</li> </ul>

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- bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing

- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server



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- hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI

- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link

- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service

- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages

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- ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)

- 
- rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
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Secure Internet Live Conferencing (SILC)
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SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
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Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol

- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

Supported on all platforms

**tcp-flags** *string***Description**

A logical expression using the &amp;, | and ! logical operators and the TCP flag names: rst, syn and ack.

**Context**[acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [match tcp-flags](#) *string***Tree**[tcp-flags](#)**Configurable**

True

**Platforms**

Supported on all platforms

**statistics**

<b>Description</b>	Container for per-entry statistics
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**aggregate**

<b>Description</b>	Container for aggregated per-entry statistics. Not present if the entry is part of a filter with statistics-per-entry set to false.
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics aggregate</a>
<b>Tree</b>	<a href="#">aggregate</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-last-match** *string*

<b>Description</b>	The elapsed time since an ingress packet last matched the entry, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an input ACL
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics aggregate in-last-match string</a>
<b>Tree</b>	<a href="#">in-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-matched-packets** *number*

<b>Description</b>	The number of ingress packets matching the entry since it was programmed or since the last clear, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an input ACL
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics aggregate in-matched-packets number</a>
<b>Tree</b>	<a href="#">in-matched-packets</a>
<b>Default</b>	0



<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-last-match** *string*

<b>Description</b>	The elapsed time since an egress packet last matched the entry, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an output ACL
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate out-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">out-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-matched-packets** *number*

<b>Description</b>	The number of egress packets matching the entry since it was programmed or since the last clear, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an output ACL
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate out-matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level or a higher level
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**per-interface**

<b>Description</b>	Container for per-entry statistics on a per subinterface basis.
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics per-interface</a>
<b>Tree</b>	<a href="#">per-interface</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**subinterface name string**

<b>Description</b>	<p>If subinterface-specific=disabled then this list is empty.</p> <p>If subinterface-specific=input-only then this is the list of subinterfaces that apply the ACL as an input ACL</p> <p>If subinterface-specific=output-only then this is the list of subinterfaces that apply the ACL as an output ACL.</p> <p>If subinterface-specific=input-and-output then this is the list of subinterfaces that apply the ACL as an input ACL or an output ACL.</p>
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics per-interface subinterface name string</a>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name string**

<b>Description</b>	Reference to a subinterface.
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics per-interface subinterface name string</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-last-match string**

<b>Description</b>	The elapsed time since an ingress packet last matched the entry on this specific subinterface. Updated only if subinterface-specific is set to input-only or input-and-output
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number statistics per-interface subinterface name string in-last-match string</a>

<b>Tree</b>	<a href="#">in-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-matched-packets** *number*

<b>Description</b>	The number of ingress packets matching the entry on this specific subinterface. Incremented only if subinterface-specific is set to input-only or input-and-output
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">in-matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level or a higher level
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-last-match** *string*

<b>Description</b>	The elapsed time since an egress packet last matched the entry on this specific subinterface. Updated only if subinterface-specific is set to output-only or input-and-output
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">out-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">out-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **out-matched-packets** *number*

**Description** The number of egress packets matching the entry on this specific subinterface. Incremented only if subinterface-specific is set to output-only or input-and-output

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [statistics per-interface subinterface name](#) *string* **out-matched-packets** *number*

**Tree** [out-matched-packets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **tcam-entries**

**Description** Information about the TCAM entries used to implement the ACL entry

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* **tcam-entries**

**Tree** [tcam-entries](#)

**Configurable** False

**Platforms** Supported on all platforms

### **forwarding-complex** [complex-identifier](#) *string*

**Description** List of forwarding complexes in the system

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [tcam-entries forwarding-complex](#) [complex-identifier](#) *string*

**Tree** [forwarding-complex](#)

**Configurable** False

**Platforms** Supported on all platforms

### **complex-identifier** *string*

**Description** A forwarding complex in the format (slot-number,complex-number).

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [tcam-entries forwarding-complex](#) [complex-identifier](#) *string*

**Configurable** False

**Platforms** Supported on all platforms

### **input-total** *number*

**Description** The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to ingress traffic.

For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then input-total=2. If the entry is not applied to ingress traffic on any subinterfaces of this complex then input-total=0.

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [tcam-entries forwarding-complex complex-identifier](#) *string* [input-total](#) *number*

**Tree** [input-total](#)

**Configurable** False

**Platforms** Supported on all platforms

### **output-total** *number*

**Description** The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to egress traffic.

For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then output-total=10. If the entry is not applied to egress traffic on any subinterfaces of this complex then output-total=0.

**Context** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number* [tcam-entries forwarding-complex complex-identifier](#) *string* [output-total](#) *number*

**Tree** [output-total](#)

**Configurable** False

**Platforms** Supported on all platforms

### **single-instance** *number*

**Description** The number of TCAM entries required to implement this entry if it is applied to only one subinterface and one traffic direction specific to this slot.

This is non-zero even if the filter is not applied to any subinterfaces of this complex. It captures the effect of TCAM entry expansion to deal with L4 port or VLAN ranges, for example.

<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries forwarding-complex complex-identifier</a> <i>string</i> <a href="#">single-instance</a> <i>number</i>
<b>Tree</b>	<a href="#">single-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics-per-entry** *boolean*

<b>Description</b>	Collect statistics for each entry of the ACL. If this is set to false no hardware resources are allocated to collecting statistics for this ACL policy.  The exact set of statistics depend on the subinterface-specific mode
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">statistics-per-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">statistics-per-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subinterface-specific** *keyword*

<b>Description</b>	Controls the instantiation of the filter when it is applied as an input or output ACL  disabled: all subinterfaces on a single linecard that reference the ACL as an input ACL use a shared filter instance, and all subinterfaces on a single linecard that reference the ACL as an output ACL use a shared filter instance  input-only: all subinterfaces on a single linecard that reference the ACL as an output ACL use a shared filter instance, but each subinterface that references the ACL as an input ACL uses its own separate instance of the filter  output-only: all subinterfaces on a single linecard that reference the ACL as an input ACL use a shared filter instance, but each subinterface that
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references the ACL as an output ACL uses its own separate instance of the filter

input-and-output: each subinterface that references the ACL as either an input ACL or an output ACL uses its own separate instance of the filter

<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">subinterface-specific</a> <i>keyword</i>
<b>Tree</b>	<a href="#">subinterface-specific</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>• disabled</li> <li>• input-only</li> <li>• output-only</li> <li>• input-and-output</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **mac-filter** *name string*

<b>Description</b>	List of MAC ACL policies
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i>
<b>Tree</b>	<a href="#">mac-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **name** *string*

<b>Description</b>	Name of the MAC ACL policy.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **description** *string*

<b>Description</b>	Description string for the MAC ACL policy
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>

<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### entry *sequence-id number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### sequence-id *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### action

<b>Description</b>	Container for the actions to be applied to packets matching the filter entry.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### accept

<b>Description</b>	Accept matching packets and forward them towards their normal destination
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">action</a> <a href="#">accept</a>



<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **forwarding-class** (*keyword* | *reference*)

<b>Description</b>	The QoS forwarding class to which the packet is mapped
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">action accept forwarding-class</a> ( <i>keyword</i>   <i>reference</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> <li>• fc5 System default forwarding-class name for the FC with index 5</li> <li>• fc6 System default forwarding-class name for the FC with index 6</li> <li>• fc7 System default forwarding-class name for the FC with index 7</li> <li>• fc8 System default forwarding-class name for the FC with index 8</li> <li>• fc9 System default forwarding-class name for the FC with index 9</li> <li>• fc10 System default forwarding-class name for the FC with index 10</li> <li>• fc11 System default forwarding-class name for the FC with index 11</li> <li>• fc12 System default forwarding-class name for the FC with index 12</li> </ul>

- fc13  
System default forwarding-class name for the FC with index 13
- fc14  
System default forwarding-class name for the FC with index 14
- fc15  
System default forwarding-class name for the FC with index 15

**Reference** [qos forwarding-classes forwarding-class name string](#)

**Configurable** True

**Platforms** Supported on all platforms except 7220 IXR-D1

## log *boolean*

**Description** When this is true, a log is created for each packet matching the entry  
For IP packets matched by an IP filter entry the log entry contains the following information:  
For Ethernet packets matched by a MAC filter entry the log entry contains the following information:

**Context** [acl mac-filter name string entry sequence-id number action accept log boolean](#)

**Tree** [log](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

## rate-limit *reference*

**Description** Reference to a policer

**Context** [acl mac-filter name string entry sequence-id number action accept rate-limit reference](#)

**Tree** [rate-limit](#)

**Reference** [acl policers policer name string](#)

**Configurable** True

**Platforms** Supported on all platforms except 7220

## drop

**Description** Drop matching packets.

Dropped IP packets do not result in sending ICMP messages back to the source

<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## log *boolean*

<b>Description</b>	When this is true, a log is created for each packet matching the entry For IP packets matched by an IP filter entry the log entry contains the following information: For Ethernet packets matched by a MAC filter entry the log entry contains the following information:
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action drop</a> <a href="#">log</a> <i>boolean</i>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## description *string*

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## match

<b>Description</b>	Container for the conditions that determine whether an Ethernet frame matches this entry
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### destination-mac

<b>Description</b>	Ethernet frame matching criteria based on destination MAC address
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match destination-mac</a>
<b>Tree</b>	<a href="#">destination-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### address string

<b>Description</b>	Match an Ethernet frame if its destination MAC address logically anded with the mask equals this MAC address.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match destination-mac address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### mask string

<b>Description</b>	Match an Ethernet frame if its destination MAC address logically anded with the mask equals the configured MAC address.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match destination-mac mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### ethertype (string | keyword)

<b>Description</b>	An Ethernet frame matches this condition if its ethertype value (after 802.1Q VLAN tags) matches the specified value
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<b>Context</b>	<code>acl mac-filter name string entry sequence-id number match ethertype (string   keyword)</code>
<b>Tree</b>	<code>ethertype</code>
<b>Options</b>	<ul style="list-style-type: none"><li>• <code>ipv4</code> Internet Protocol version 4. Ethertype 0x0800.</li><li>• <code>arp</code> Address Resolution Protocol. Ethertype 0x0806.</li><li>• <code>ipv6</code> Internet Protocol version 6. Ethertype 0x86DD.</li><li>• <code>flow-control</code> Ethernet flow control PAUSE frames. Ethertype 0x8808</li><li>• <code>lACP</code> LACP. Ethertype 0x8809.</li><li>• <code>mpls-unicast</code> MPLS unicast. Ethertype 0x8847.</li><li>• <code>mpls-multicast</code> MPLS multicast. Ethertype 0x8848.</li><li>• <code>pppoe-discovery</code> PPPoE discovery. Ethertype 0x8863.</li><li>• <code>pppoe-session</code> PPPoE session. Ethertype 0x8864.</li><li>• <code>8021x-authentication</code> 802.1x authentication (EAP). Ethertype 0x888E.</li><li>• <code>lldp</code> Link Layer Discovery Protocol. Ethertype 0x88CC.</li><li>• <code>macsec</code> IEEE 802.1AE MAC security. Ethertype 0x88E5.</li><li>• <code>pbb</code> Provider Backbone Bridging. Ethertype 0x88E7.</li><li>• <code>ptp</code> Precision Time Protocol. Ethertype 0x88F7.</li><li>• <code>eth-oam</code> IEEE 802.1ag CFM and ITU-T Y.1731 OAM. Ethertype 0x8902.</li><li>• <code>fcoe</code> Fibre Channel over Ethernet. Ethertype 0x8906.</li><li>• <code>fcoe-initialization</code></li></ul>

Fibre Channel over Ethernet Initialization Protocol. Ethertype 0x8914.

- roce

RDMA over Converged Ethernet. Ethertype 0x8915.

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## source-mac

**Description** Ethernet frame matching criteria based on source MAC address

**Context** [acl mac-filter name string entry sequence-id number match source-mac](#)

**Tree** [source-mac](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## address string

**Description** Match an Ethernet frame if its source MAC address logically anded with the mask equals this MAC address.

**Context** [acl mac-filter name string entry sequence-id number match source-mac address string](#)

**Tree** [address](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mask string

**Description** Match an Ethernet frame if its source MAC address logically anded with the mask equals the configured MAC address.

**Context** [acl mac-filter name string entry sequence-id number match source-mac mask string](#)

**Tree** [mask](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vlan**

<b>Description</b>	Ethernet frame matching criteria based on VLAN tags
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match vlan</a>
<b>Tree</b>	<a href="#">vlan</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**outermost-vlan-id**

<b>Description</b>	Ethernet frame matching criteria based on the outermost VLAN ID found before the subinterface-defining VLAN tag (if any) is removed.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match vlan outermost-vlan-id</a>
<b>Tree</b>	<a href="#">outermost-vlan-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**none**

<b>Description</b>	When configured, only untagged frames are matched.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match vlan outermost-vlan-id none</a>
<b>Tree</b>	<a href="#">none</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operator** *keyword*

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match vlan outermost-vlan-id operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le</li> </ul>

- Less than or equal.
- ge
- Greater than or equal.
- eq
- Equal to.

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## range

<b>Description</b>	Container used to specify a contiguous range of VLAN IDs. Matched values include the start and end values.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match vlan outermost-vlan-id range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## end number

<b>Description</b>	The ending VLAN ID to include in the range
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match vlan outermost-vlan-id range end number</a>
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## start number

<b>Description</b>	The starting VLAN ID to include in the range
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match vlan outermost-vlan-id range start number</a>
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 4095



<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**value number**

<b>Description</b>	A VLAN ID number A value of zero is used to match priority-tagged 802.1Q frames.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number match vlan outermost-vlan-id value number</a>
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**statistics**

<b>Description</b>	Container for per-entry statistics
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**aggregate**

<b>Description</b>	Container for aggregated per-entry statistics. Not present if the entry is part of a filter with statistics-per-entry set to false.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number statistics aggregate</a>
<b>Tree</b>	<a href="#">aggregate</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**in-last-match** *string*

<b>Description</b>	The elapsed time since an ingress packet last matched the entry, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an input ACL
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate in-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">in-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-matched-packets** *number*

<b>Description</b>	The number of ingress packets matching the entry since it was programmed or since the last clear, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an input ACL
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate in-matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**out-last-match** *string*

<b>Description</b>	The elapsed time since an egress packet last matched the entry, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an output ACL
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics aggregate out-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">out-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-matched-packets** *number*

<b>Description</b>	The number of egress packets matching the entry since it was programmed or since the last clear, considering the mgmt0 subinterface and all subinterfaces of all linecard ports that use the ACL as an output ACL
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number statistics aggregate out-matched-packets number</a>
<b>Tree</b>	<a href="#">out-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level or a higher level
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**per-interface**

<b>Description</b>	Container for per-entry statistics on a per subinterface basis.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number statistics per-interface</a>
<b>Tree</b>	<a href="#">per-interface</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**subinterface** [name string](#)

<b>Description</b>	If subinterface-specific=disabled then this list is empty. If subinterface-specific=input-only then this is the list of subinterfaces that apply the ACL as an input ACL
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If subinterface-specific=output-only then this is the list of subinterfaces that apply the ACL as an output ACL.

If subinterface-specific=input-and-output then this is the list of subinterfaces that apply the ACL as an input ACL or an output ACL.

<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **name** *string*

<b>Description</b>	Reference to a subinterface.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-last-match** *string*

<b>Description</b>	The elapsed time since an ingress packet last matched the entry on this specific subinterface. Updated only if subinterface-specific is set to input-only or input-and-output
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">in-last-match</a> <i>string</i>
<b>Tree</b>	<a href="#">in-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-matched-packets** *number*

<b>Description</b>	The number of ingress packets matching the entry on this specific subinterface. Incremented only if subinterface-specific is set to input-only or input-and-output
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">in-matched-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-packets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level or a higher level
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <b>last-clear</b> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-last-match** *string*

<b>Description</b>	The elapsed time since an egress packet last matched the entry on this specific subinterface. Updated only if subinterface-specific is set to output-only or input-and-output
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <b>out-last-match</b> <i>string</i>
<b>Tree</b>	<a href="#">out-last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-matched-packets** *number*

<b>Description</b>	The number of egress packets matching the entry on this specific subinterface. Incremented only if subinterface-specific is set to output-only or input-and-output
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <b>out-matched-packets</b> <i>number</i>
<b>Tree</b>	<a href="#">out-matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tcam-entries**

<b>Description</b>	Information about the TCAM entries used to implement the ACL entry
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**forwarding-complex** [complex-identifier](#) *string*

<b>Description</b>	List of forwarding complexes in the system
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**complex-identifier** *string*

<b>Description</b>	A forwarding complex in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**input-total** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to ingress traffic.  For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then input-total=2. If the entry is not applied to ingress traffic on any subinterfaces of this complex then input-total=0.
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <a href="#">forwarding-complex</a> <a href="#">complex-identifier</a> <i>string</i> <a href="#">input-total</a> <i>number</i>

<b>Tree</b>	<a href="#">input-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **output-total** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to egress traffic.  For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then output-total=10. If the entry is not applied to egress traffic on any subinterfaces of this complex then output-total=0.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string output-total number</a>
<b>Tree</b>	<a href="#">output-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **single-instance** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry if it is applied to only one subinterface and one traffic direction specific to this slot.  This is non-zero even if the filter is not applied to any subinterfaces of this complex. It captures the effect of TCAM entry expansion to deal with L4 port or VLAN ranges, for example.
<b>Context</b>	<a href="#">acl mac-filter name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string single-instance number</a>
<b>Tree</b>	<a href="#">single-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl mac-filter name string last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### statistics-per-entry *boolean*

<b>Description</b>	Collect statistics for each entry of the ACL The exact set of statistics depend on the subinterface-specific mode
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">statistics-per-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">statistics-per-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### subinterface-specific *keyword*

<b>Description</b>	Controls the instantiation of the filter when it is applied as an input or output ACL  disabled: all subinterfaces on a single linecard that reference the ACL as an input ACL use a shared filter instance, and all subinterfaces on a single linecard that reference the ACL as an output ACL use a shared filter instance  input-only: all subinterfaces on a single linecard that reference the ACL as an output ACL use a shared filter instance, but each subinterface that references the ACL as an input ACL uses its own separate instance of the filter  output-only: all subinterfaces on a single linecard that reference the ACL as an input ACL use a shared filter instance, but each subinterface that references the ACL as an output ACL uses its own separate instance of the filter  input-and-output: each subinterface that references the ACL as either an input ACL or an output ACL uses its own separate instance of the filter
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">subinterface-specific</a> <i>keyword</i>
<b>Tree</b>	<a href="#">subinterface-specific</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>• disabled</li> <li>• input-only</li> <li>• output-only</li> <li>• input-and-output</li> </ul>
<b>Configurable</b>	True



**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## **policers**

**Description** Container for policer definitions used by ACL entries

**Context** [acl policers](#)

**Tree** [policers](#)

**Configurable** True

**Platforms** Supported on all platforms

## **policer [name string](#)**

**Description** List of policer templates used in subinterface and CPM Filter ACL.

**Context** [acl policers policer name string](#)

**Tree** [policer](#)

**Configurable** True

**Platforms** Supported on all platforms except 7220

## **name [string](#)**

**Description** User-defined name of the policer

**Context** [acl policers policer name string](#)

**String Length** 1 to 255

**Configurable** True

**Platforms** Supported on all platforms except 7220

## **entry-specific [boolean](#)**

**Description** If set to false, one policer instance is created from this template and it is shared by all entries of in the same ACL filter that refer to this policer.  
If set to true, multiple policer instances are created from this template, one for each ACL filter entry that refers to the policer template.

**Context** [acl policers policer name string entry-specific boolean](#)

**Tree** [entry-specific](#)

**Configurable** True

**Platforms** Supported on all platforms

### **max-burst** *number*

**Description** The MBS bucket depth in bytes

**Context** [acl policers policer name](#) *string* [max-burst](#) *number*

**Tree** [max-burst](#)

**Range** 1 to 125000000

**Units** bytes

**Configurable** True

**Platforms** Supported on all platforms except 7220

### **peak-rate** *number*

**Description** The PIR rate in kbps (bucket empty/fill rate).

**Context** [acl policers policer name](#) *string* [peak-rate](#) *number*

**Tree** [peak-rate](#)

**Range** 1 to 1000000

**Units** kbps

**Configurable** True

**Platforms** Supported on all platforms except 7220

### **statistics**

**Description** Container for linecard policer statistics.

**Context** [acl policers policer name](#) *string* [statistics](#)

**Tree** [statistics](#)

**Configurable** False

**Platforms** Supported on all platforms except 7220

### **aggregate**

**Description** None of these statistics are populated if the policer is configured as entry-specific=true.

If entry-specific=false and subinterface-specific=true, this is sum of all the entries and all the policer templates instantiated for all subintrefaces.

If entry-specific=false and subinterface-specific=false, this is sum of all the entries using this policer template.

<b>Context</b>	<a href="#">acl policers policer name</a> <i>string</i> <a href="#">statistics aggregate</a>
<b>Tree</b>	<a href="#">aggregate</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **conforming-octets** *number*

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl policers policer name</a> <i>string</i> <a href="#">statistics aggregate conforming-octets number</a>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **conforming-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl policers policer name</a> <i>string</i> <a href="#">statistics aggregate conforming-packets number</a>
<b>Tree</b>	<a href="#">conforming-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220

### **exceeding-octets** *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl policers policer name</a> <i>string</i> <a href="#">statistics aggregate exceeding-octets number</a>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** Supported on all platforms except 7220

### exceeding-packets *number*

**Description** The number of packets (actually Ethernet frames) that were considered exceeding by the policer

**Context** [acl policers policer name string statistics aggregate exceeding-packets number](#)

**Tree** [exceeding-packets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms except 7220

### last-clear *string*

**Description** Time of the last clear command that applied to these statistics

**Context** [acl policers policer name string statistics last-clear string](#)

**Tree** [last-clear](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms except 7220

### system-cpu-policer *name string*

**Description** List of system CPU policer templates. For each policer in this list one or more policer instances are implemented in the XDP-CPM software and these policer instances process the aggregate of terminating traffic received from all linecards.

**Context** [acl policers system-cpu-policer name string](#)

**Tree** [system-cpu-policer](#)

**Configurable** True

**Platforms** Supported on all platforms

### name *string*

**Description** User-defined name of the policer

**Context** [acl policers system-cpu-policer name string](#)

<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **entry-specific** *boolean*

<b>Description</b>	If set to false, only one policer instance is created from this template and it is shared by all entries of all cpm-filter ACLs that refer to this policer.  If set to true, multiple policer instances are created from this template, one for each cpm-filter entry that refers to the policer template.
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <b>entry-specific</b> <i>boolean</i>
<b>Tree</b>	<a href="#">entry-specific</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **max-packet-burst** *number*

<b>Description</b>	The maximum depth of the policer bucket in number of packets
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <b>max-packet-burst</b> <i>number</i>
<b>Tree</b>	<a href="#">max-packet-burst</a>
<b>Range</b>	16 to 4000000
<b>Default</b>	16
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **peak-packet-rate** *number*

<b>Description</b>	The maximum number of packets per second (bucket empty/fill rate)
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <b>peak-packet-rate</b> <i>number</i>
<b>Tree</b>	<a href="#">peak-packet-rate</a>
<b>Range</b>	1 to 4000000
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Container for system CPU policer statistics None of these statistics are populated if the policer is configured as entry-specific=true.
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**conforming-octets** *number*

<b>Description</b>	The number of bytes that were considered conforming by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <a href="#">statistics</a> <a href="#">conforming-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">conforming-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**conforming-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered conforming by the policer
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <a href="#">statistics</a> <a href="#">conforming-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">conforming-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**exceeding-octets** *number*

<b>Description</b>	The number of bytes that were considered exceeding by the policer. The byte count includes 18 bytes of Ethernet overhead for every IP packet.
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <a href="#">statistics</a> <a href="#">exceeding-octets</a> <i>number</i>

<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **exceeding-packets** *number*

<b>Description</b>	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <a href="#">statistics exceeding-packets number</a>
<b>Tree</b>	<a href="#">exceeding-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Time of the last clear command that applied to these statistics
<b>Context</b>	<a href="#">acl policers system-cpu-policer name</a> <i>string</i> <a href="#">statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **system-filter**

<b>Description</b>	Top level container for System filters
<b>Context</b>	<a href="#">acl system-filter</a>
<b>Tree</b>	<a href="#">system-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv4-filter**

<b>Description</b>	Top level container for System IPv4 filters
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<b>Context</b>	<a href="#">acl system-filter ipv4-filter</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **entry** [sequence-id](#) *number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number</a>
<b>Range</b>	1 to 256
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **action**

<b>Description</b>	Container for the actions to be applied to packets matching the System filter entry.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **accept**

<b>Description</b>	Accept matching packets
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<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number action accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**drop**

<b>Description</b>	Drop matching packets without sending any ICMP messages back to the source
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**log *boolean***

<b>Description</b>	When this is true, a log is created for each packet matching the entry The log entry contains the following information:
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number action drop log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**description *string***

<b>Description</b>	Description string for the filter entry
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**match**

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**destination-ip**

<b>Description</b>	Packet matching criteria based on destination IPv4 address
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**address string**

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match destination-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mask string**

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match destination-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **prefix string**

**Description** Match a packet if its destination IP address is within the specified IPv4 prefix.

**Context** [acl system-filter ipv4-filter entry sequence-id number match destination-ip prefix string](#)

**Tree** [prefix](#)

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **destination-port**

**Description** A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified

The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.

**Context** [acl system-filter ipv4-filter entry sequence-id number match destination-port destination-port](#)

**Tree** [destination-port](#)

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **operator keyword**

**Description** Comparison operator

eq = equal ge = greater than or equal to le = less than or equal to

**Context** [acl system-filter ipv4-filter entry sequence-id number match destination-port operator keyword](#)

**Tree** [operator](#)

**Options**

- le  
Less than or equal.
- ge  
Greater than or equal.
- eq  
Equal to.

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match destination-port range end (<i>number</i>   <i>keyword</i>)</a>
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b></li> </ul>

---

### Authentication Service

- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover

- 
- DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime

- GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep

- 
- IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell
  - l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
  - ldap  
Lightweight Directory Access Protocol (LDAP)
  - ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - ldp  
Label Distribution Protocol
  - lmp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo



- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol

- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)

- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol

- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC

- svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail  
Xerox Network Systems (XNS) Mail
  - xns-time  
Xerox Network Systems (XNS) Time Protocol
  - z3950  
ANSI Z39.50
- Configurable** True
- Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match destination-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b> Authentication Service</li> <li>• <b>bfd</b> Bidirectional Forwarding Detection Single Hop</li> <li>• <b>bfd-echo</b> BFD Echo</li> <li>• <b>bftp</b> Background File Transfer Program</li> <li>• <b>bgmp</b> Border Gateway Multicast Protocol</li> <li>• <b>bgp</b> Border Gateway Protocol</li> <li>• <b>bootpc</b> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <b>bootps</b></li> </ul>

- 
- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp

- 
- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt



- 
- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
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  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
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Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor

- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
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NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts

- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
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Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol

- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
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Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**value** (*number* | *keyword*)**Description**

A destination port number

**Context**[acl system-filter ipv4-filter entry sequence-id number match destination-port value](#) (*number* | *keyword*)**Tree**[value](#)**Range**

0 to 65535

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp

- 
- ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
  - ashare  
AppleShare IP Web Administration
  - atalk-rm  
AppleTalk Routing Maintenance
  - aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
  - bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
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Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications



- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
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Digital Imaging and Communications in Medicine
- discard  
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DNSIX security protocol auditing
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- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control

- `ftps-data`  
FTPS (FTP over SSL/TLS) data
- `godi`  
Group Domain Of Interpretation (GDOI) protocol
- `gopher`  
Gopher protocol
- `gtp-c`  
GTP control messages (GTP-C)
- `gtp-prime`  
GTP prime CDR logging protocol
- `gtp-u`  
GTP user data messages (GTP-U)
- `ha-cluster`  
Linux-HA high-availability heartbeat
- `hostname`  
NIC hostname server
- `hp-alarm-mgr`  
HP data alarm manager
- `http`  
Hypertext Transfer Protocol
- `http-alt`  
FileMaker Web Sharing (HTTP Alternate)
- `http-mgmt`  
`http-mgmt`
- `http-rpc`  
Remote procedure call over Hypertext Transfer Protocol
- `https`  
Hypertext Transfer Protocol over TLS/SSL
- `ieee-mms-ssl`  
IEEE Media Management System over SSL
- `imap`  
Internet Message Access Protocol (IMAP)
- `imap3`  
Internet Message Access Protocol (IMAP), version 3
- `imaps`  
Internet Message Access Protocol over TLS/SSL

- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
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IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp

- Label Distribution Protocol
- Imp
- Link Management Protocol (LMP)
- login
- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd

## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr

- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)



	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>CS0</li> <li>LE</li> <li>CS1</li> <li>AF11</li> <li>AF12</li> <li>AF13</li> <li>CS2</li> <li>AF21</li> <li>AF22</li> <li>AF23</li> <li>CS3</li> <li>AF31</li> <li>AF32</li> <li>AF33</li> <li>CS4</li> <li>AF41</li> <li>AF42</li> <li>AF43</li> </ul>

- CS5
- EF
- CS6
- CS7

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

### first-fragment *boolean*

<b>Description</b>	Match the first fragment of an IPv4 datagram A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and and the more-fragments bit is 1. It is not valid to configure this leaf without configuring a match value for the fragment leaf.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match first-fragment boolean</a>
<b>Tree</b>	<a href="#">first-fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### fragment *boolean*

<b>Description</b>	Match an IPv4 fragment A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and and the more-fragments bit is 1 or if the IPv4 header indicates that the fragment-offset is greater than 0. A packet matches the false condition if it is unfragmented.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match fragment boolean</a>
<b>Tree</b>	<a href="#">fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### icmp

<b>Description</b>	A packet matches this condition if its ICMP type and code matches one of the specified combinations
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The rule should also have a condition that the IP protocol equals 1 (ICMP) in order for this to be interpreted correctly.

<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match icmp</a>
<b>Tree</b>	<a href="#">icmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **code number**

<b>Description</b>	Match if the ICMP code value is any value in the list Requires ICMP type to be specified because codes are type dependent.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match icmp code number</a>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type (number | keyword)**

<b>Description</b>	Match a single ICMP type value.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match icmp type (number   keyword)</a>
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• echo-reply ICMP Echo Reply</li> <li>• dest-unreachable ICMP Destination Unreachable</li> <li>• source-quench ICMP Source Quench</li> <li>• redirect ICMP Redirect</li> <li>• echo ICMP Echo</li> <li>• router-advertise</li> </ul>

	ICMP Router Advertisement
	• router-solicit
	ICMP Router Solicitation
	• time-exceeded
	ICMP Time Exceeded
	• param-problem
	ICMP Parameter Problem
	• timestamp
	ICMP Timestamp
	• timestamp-reply
	ICMP Timestamp Reply
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **protocol** (*number* | *keyword*)

<b>Description</b>	An IPv4 packet matches this condition if its IP protocol type field matches the specified value
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id</a> <i>number</i> <a href="#">match protocol</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">protocol</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv6-hop</a> IPv6 hop-by-hop option</li> <li>• <a href="#">icmp</a> Internet Control Message Protocol</li> <li>• <a href="#">igmp</a> Internet Group Management Protocol</li> <li>• <a href="#">ggp</a> Gateway-to-Gateway Protocol</li> <li>• <a href="#">ipv4</a> IPv4 encapsulation</li> <li>• <a href="#">st</a> Stream Protocol</li> <li>• <a href="#">tcp</a> Transmission Control Protocol</li> </ul>

- egp  
Exterior Gateway Protocol
- igp  
Interior Gateway Protocol
- udp  
User Datagram Protocol
- ipv6  
IPv6 encapsulation
- idrp  
Inter-Domain Routing Protocol
- rsvp  
Resource Reservation Protocol
- gre  
Generic Routing Encapsulation
- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol

- `mpls-in-ip`  
MPLS Encapsulation inside IP
- `rohc`  
Robust Header Compression

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**source-ip****Description**

Packet matching criteria based on source IPv4 address

**Context**[acl system-filter ipv4-filter entry sequence-id number match source-ip](#)**Tree**[source-ip](#)**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**address string****Description**

Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.

**Context**[acl system-filter ipv4-filter entry sequence-id number match source-ip address string](#)**Tree**[address](#)**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mask string****Description**

Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.

**Context**[acl system-filter ipv4-filter entry sequence-id number match source-ip mask string](#)**Tree**[mask](#)**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match source-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• le Less than or equal.</li> <li>• ge Greater than or equal.</li> <li>• eq Equal to.</li> </ul>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## range

**Description** Container used to specify a contiguous range of TCP/UDP port numbers

**Context** [acl system-filter ipv4-filter entry sequence-id number match source-port range](#)

**Tree** [range](#)

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## end (*number* | *keyword*)

**Description** The ending port number to include in the range

**Context** [acl system-filter ipv4-filter entry sequence-id number match source-port range end \(\*number\* | \*keyword\*\)](#)

**Tree** [end](#)

**Range** 0 to 65535

**Options**

- **acap**  
Application Configuration Access Protocol
- **afp-tcp**  
Apple Filing Protocol over TCP
- **arns**  
A Remote Network Server System
- **asf-rmcp**  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- **ashare**  
AppleShare IP Web Administration
- **atalk-rm**  
AppleTalk Routing Maintenance
- **aurp**  
AppleTalk Update-Based Routing Protocol
- **auth**  
Authentication Service



- 
- bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol

- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol

- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP

- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm

- 
- Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3

- NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3

- 
- Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor

- 
- rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC



- svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail  
Xerox Network Systems (XNS) Mail
  - xns-time  
Xerox Network Systems (XNS) Time Protocol
  - z3950  
ANSI Z39.50
- Configurable** True
- Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b> Authentication Service</li> <li>• <b>bfd</b> Bidirectional Forwarding Detection Single Hop</li> <li>• <b>bfd-echo</b> BFD Echo</li> <li>• <b>bftp</b> Background File Transfer Program</li> <li>• <b>bgmp</b> Border Gateway Multicast Protocol</li> <li>• <b>bgp</b> Border Gateway Protocol</li> <li>• <b>bootpc</b> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <b>bootps</b></li> </ul>

- 
- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp

- 
- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt

- 
- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor

- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts

- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol



- 
- qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**value** (*number* | *keyword*)**Description**

A source port number

**Context**[acl system-filter ipv4-filter entry sequence-id number match source-port value](#) (*number* | *keyword*)**Tree**[value](#)**Range**

0 to 65535

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp

- 
- ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
  - ashare  
AppleShare IP Web Administration
  - atalk-rm  
AppleTalk Routing Maintenance
  - aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
  - bfd  
Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications

- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control

- `ftps-data`  
FTPS (FTP over SSL/TLS) data
- `godi`  
Group Domain Of Interpretation (GDOI) protocol
- `gopher`  
Gopher protocol
- `gtp-c`  
GTP control messages (GTP-C)
- `gtp-prime`  
GTP prime CDR logging protocol
- `gtp-u`  
GTP user data messages (GTP-U)
- `ha-cluster`  
Linux-HA high-availability heartbeat
- `hostname`  
NIC hostname server
- `hp-alarm-mgr`  
HP data alarm manager
- `http`  
Hypertext Transfer Protocol
- `http-alt`  
FileMaker Web Sharing (HTTP Alternate)
- `http-mgmt`  
`http-mgmt`
- `http-rpc`  
Remote procedure call over Hypertext Transfer Protocol
- `https`  
Hypertext Transfer Protocol over TLS/SSL
- `ieee-mms-ssl`  
IEEE Media Management System over SSL
- `imap`  
Internet Message Access Protocol (IMAP)
- `imap3`  
Internet Message Access Protocol (IMAP), version 3
- `imaps`  
Internet Message Access Protocol over TLS/SSL

- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp

- Label Distribution Protocol
- Imp
- Link Management Protocol (LMP)
- login
- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd



## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr

- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### tcp-flags *string*

<b>Description</b>	A logical expression using the &,   and ! logical operators and the TCP flag names: rst, syn and ack.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number match tcp-flags string</a>
<b>Tree</b>	<a href="#">tcp-flags</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### statistics

<b>Description</b>	Statistics container for packets matching the system-filter entry
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### last-clear *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-match** *string*

**Description** The elapsed time since a packet last matched the entry, considering all subinterfaces.

**Context** [acl system-filter ipv4-filter entry sequence-id number statistics last-match string](#)

**Tree** [last-match](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **matched-packets** *number*

**Description** The number of packets matching the entry since it was programmed or since the last clear, summed across all subinterfaces

**Context** [acl system-filter ipv4-filter entry sequence-id number statistics matched-packets number](#)

**Tree** [matched-packets](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **tcam-entries** *number*

**Description** The number of TCAM entries required to implement a single instance of this filter rule.

**Context** [acl system-filter ipv4-filter entry sequence-id number tcam-entries number](#)

**Tree** [tcam-entries](#)

**Configurable** False

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-clear *string***

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl system-filter ipv4-filter last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ipv6-filter**

<b>Description</b>	Top level container for System IPv6 filters
<b>Context</b>	<a href="#">acl system-filter ipv6-filter</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**entry [sequence-id](#) *number***

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**sequence-id *number***

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number</a>
<b>Range</b>	1 to 128
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**action**

<b>Description</b>	Container for the actions to be applied to packets matching the System filter entry.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**accept**

<b>Description</b>	Accept matching packets
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number action accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**drop**

<b>Description</b>	Drop matching packets without sending any ICMP messages back to the source
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number action drop</a>
<b>Tree</b>	<a href="#">drop</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**log *boolean***

<b>Description</b>	When this is true, a log is created for each packet matching the entry The log entry contains the following information:
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number action drop log boolean</a>
<b>Tree</b>	<a href="#">log</a>
<b>Default</b>	false
<b>Configurable</b>	True



**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### description *string*

**Description** Description string for the filter entry

**Context** [acl system-filter ipv6-filter entry sequence-id number description string](#)

**Tree** [description](#)

**String Length** 1 to 255

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### match

**Description** Container for the conditions that determine whether a packet matches this entry

**Context** [acl system-filter ipv6-filter entry sequence-id number match](#)

**Tree** [match](#)

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### destination-ip

**Description** Packet matching criteria based on destination IPv6 address

**Context** [acl system-filter ipv6-filter entry sequence-id number match destination-ip](#)

**Tree** [destination-ip](#)

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### address *string*

**Description** Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.

**Context** [acl system-filter ipv6-filter entry sequence-id number match destination-ip address string](#)

<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### mask string

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### prefix string

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### destination-port

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operator** *keyword*

<b>Description</b>	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-port operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le Less than or equal.</li> <li>ge Greater than or equal.</li> <li>eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**range**

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**end** (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-port range end (number   keyword)</a>
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> </ul>

- arns  
A Remote Network Server System
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd

- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data

- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3

- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps

- 
- Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
  - ldp  
Label Distribution Protocol
  - lmp  
Link Management Protocol (LMP)
  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp



- Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr

- 
- On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd

## SupportSoft Nexus Remote Command

- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp

- 
- Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)

	<ul style="list-style-type: none"> <li>• xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>• xns-mail Xerox Network Systems (XNS) Mail</li> <li>• xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>• z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match destination-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• acap Application Configuration Access Protocol</li> <li>• afp-tcp Apple Filing Protocol over TCP</li> <li>• arns A Remote Network Server System</li> <li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• ashare AppleShare IP Web Administration</li> <li>• atalk-rm AppleTalk Routing Maintenance</li> <li>• aarp AppleTalk Update-Based Routing Protocol</li> <li>• auth Authentication Service</li> <li>• bfd</li> </ul>

- 
- Bidirectional Forwarding Detection Single Hop
  - bfd-echo  
  BFD Echo
  - bftp  
  Background File Transfer Program
  - bgmp  
  Border Gateway Multicast Protocol
  - bgp  
  Border Gateway Protocol
  - bootpc  
  Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
  Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
  CCSO Nameserver
  - chargen  
  Character Generator Protocol (CHARGEN)
  - cisco-tdp  
  Cisco Tag Distribution Protocol
  - citadel  
  Citadel
  - clearcase  
  ClearCase albd
  - commerce  
  Commerce Applications
  - courier  
  Remote Procedure Call
  - daytime  
  Daytime Protocol
  - dhcpv6-client  
  DHCPv6 Client
  - dhcpv6-server  
  DHCPv6 Server
  - dhcp-failover  
  DHCP Failover Protocol
  - dicom

## Digital Imaging and Communications in Medicine

- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u

- GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
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IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
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Internet Message Access Protocol (IMAP), version 3
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Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp



- 
- Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
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Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell
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  - login  
rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
  - mac-server-adm  
Mac OS X Server administration

- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol

- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
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- pop3s  
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Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
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Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor

- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
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Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)

- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**value** (*number* | *keyword*)

<b>Description</b>	A destination port number
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match destination-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>acap</b> Application Configuration Access Protocol</li> <li>• <b>afp-tcp</b> Apple Filing Protocol over TCP</li> <li>• <b>arns</b> A Remote Network Server System</li> <li>• <b>asf-rmcp</b> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>• <b>ashare</b> AppleShare IP Web Administration</li> <li>• <b>atalk-rm</b> AppleTalk Routing Maintenance</li> <li>• <b>aurp</b> AppleTalk Update-Based Routing Protocol</li> <li>• <b>auth</b> Authentication Service</li> <li>• <b>bfd</b> Bidirectional Forwarding Detection Single Hop</li> <li>• <b>bfd-echo</b> BFD Echo</li> <li>• <b>bftp</b> Background File Transfer Program</li> <li>• <b>bgmp</b> Border Gateway Multicast Protocol</li> <li>• <b>bgp</b> Border Gateway Protocol</li> <li>• <b>bootpc</b> Bootstrap Protocol (BOOTP) Client and DHCP Client</li> <li>• <b>bootps</b></li> </ul>

- 
- Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp



- 
- Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt

- 
- http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration

- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor

- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts

- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol

- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)

- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services

- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**dscp-set** (*number* | *keyword*)**Description**

A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.

**Context**

[acl system-filter ipv6-filter entry sequence-id](#) *number* [match dscp-set](#) (*number* | *keyword*)

**Tree**

[dscp-set](#)

**Range**

0 to 63

**Options**

- CS0
- LE
- CS1
- AF11
- AF12
- AF13



- CS2
- AF21
- AF22
- AF23
- CS3
- AF31
- AF32
- AF33
- CS4
- AF41
- AF42
- AF43
- CS5
- EF
- CS6
- CS7

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**icmp6****Description**

A packet matches this condition if its ICMPv6 type and code matches one of the specified combinations

The rule should also have a condition that the next-header value equals 58 (ICMPv6) in order for this to be interpreted correctly.

**Context**

[acl system-filter ipv6-filter entry sequence-id \*number\* match icmp6](#)

**Tree**

[icmp6](#)

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**code number****Description**

Match if the ICMPv6 code value is any value in the list

Requires ICMPv6 type to be specified because codes are type dependent.

<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match icmp6 code number</a>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type** (*number* | *keyword*)

<b>Description</b>	Match a single ICMPv6 type value
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match icmp6 type (number   keyword)</a>
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>dest-unreachable</code> ICMPv6 Destination Unreachable</li> <li>• <code>packet-too-big</code> ICMPv6 Packet Too Big</li> <li>• <code>time-exceeded</code> ICMPv6 Time Exceeded</li> <li>• <code>param-problem</code> Parameter Problem</li> <li>• <code>echo-request</code> ICMPv6 Echo Request</li> <li>• <code>echo-reply</code> ICMPv6 Echo Reply</li> <li>• <code>mld-query</code> Multicast Listener Discovery Query</li> <li>• <code>mld-report</code> Multicast Listener Discovery Report</li> <li>• <code>mld-done</code> Multicast Listener Discovery Done</li> <li>• <code>router-solicit</code> ICMPv6 Router Solicitation</li> <li>• <code>router-advertise</code> ICMPv6 Router Advertisement</li> <li>• <code>neighbor-solicit</code></li> </ul>

- ICMPv6 Neighbor Solicitation
- neighbor-advertise
- ICMPv6 Neighbor Advertisement
- redirect
- ICMPv6 Redirect
- router-renomber
- ICMPv6 Router Renumbering
- node-info-query
- ICMPv6 Node Information Query
- node-info-response
- ICMPv6 Node Information Response
- mld-v2
- Multicast Listener Discovery Version 2
- mcast-rtr-adv
- Multicast Router Advertisement
- mcast-rtr-solicit
- Multicast Router Solicitation
- mcast-rtr-term
- Multicast Router Termination

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**next-header** (*number* | *keyword*)**Description**

An IPv6 packet matches this condition if its first next-header field (in the IPv6 fixed header) contains the specified value

**Context**[acl system-filter ipv6-filter entry sequence-id](#) *number* [match next-header](#) (*number* | *keyword*)**Tree**[next-header](#)**Range**

0 to 255

**Options**

- ipv6-hop
- IPv6 hop-by-hop option
- icmp
- Internet Control Message Protocol
- igmp
- Internet Group Management Protocol

- 
- ggp  
Gateway-to-Gateway Protocol
  - ipv4  
IPv4 encapsulation
  - st  
Stream Protocol
  - tcp  
Transmission Control Protocol
  - egp  
Exterior Gateway Protocol
  - igp  
Interior Gateway Protocol
  - udp  
User Datagram Protocol
  - ipv6  
IPv6 encapsulation
  - idrp  
Inter-Domain Routing Protocol
  - rsvp  
Resource Reservation Protocol
  - gre  
Generic Routing Encapsulation
  - esp  
IPSec Encapsulating Security Payload
  - ah  
IPSec Authentication Header
  - icmp6  
IPSec Authentication Header
  - no-next-hdr  
No Next Header for IPv6
  - ipv6-dest-opts  
Destination Options for IPv6
  - eigrp  
Cisco EIGRP
  - ospf  
OSPFv2 and OSPFv3

- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**source-ip****Description**

Packet matching criteria based on source IPv6 address

**Context**[acl system-filter ipv6-filter entry sequence-id number match source-ip](#)**Tree**[source-ip](#)**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**address string****Description**

Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.

**Context**[acl system-filter ipv6-filter entry sequence-id number match source-ip address string](#)**Tree**[address](#)**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mask string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-port operator keyword</a>

<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>le</code> Less than or equal.</li> <li>• <code>ge</code> Greater than or equal.</li> <li>• <code>eq</code> Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-port range end (<i>number</i>   <i>keyword</i>)</a>
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>acap</code> Application Configuration Access Protocol</li> <li>• <code>afp-tcp</code> Apple Filing Protocol over TCP</li> <li>• <code>arns</code> A Remote Network Server System</li> <li>• <code>asf-rmcp</code> ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> </ul>

- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call



- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data

- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol

- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp

- 
- Link Management Protocol (LMP)
  - login
    - rlogin (TCP) or Who (UDP)
  - lpd
    - Line Printer Daemon
  - lsp-ping
    - MPLS LSP-echo
  - mac-server-adm
    - Mac OS X Server administration
  - matip-a
    - Mapping of Airline Traffic over Internet Protocol (MATIP) type A
  - matip-b
    - Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd
    - BFD session over each LAG member link
  - microsoft-ds
    - Microsoft Directory Services
  - mobile-ip
    - Mobile IP Agent
  - monitor
    - Monitor
  - mpp
    - Message posting protocol (MPP)
  - mssql-m
    - Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s
    - Microsoft SQL Server database management system (MSSQL) server
  - msdp
    - Multicast Source Discovery Protocol
  - ms-exchange
    - MS Exchange Routing
  - msp
    - Message Send Protocol
  - multihop-bfd
    - Bidirectional Forwarding Detection Multi-Hop
  - nas

- 
- Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol
  - netbios-data  
NetBIOS Datagram Service
  - netbios-ns  
NetBIOS Name Service
  - netbios-ss  
NetBIOS Session Service
  - netnews  
Netnews
  - netwall  
netwall, for Emergency Broadcasts
  - new-rwho  
new-rwho, new-who
  - nfs  
Network File System (NFS)
  - nntp  
Network News Transfer Protocol (NNTP)
  - nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
  - ntp  
Network Time Protocol (NTP)
  - odmr  
On-Demand Mail Relay (ODMR)
  - olsr  
Optimized Link State Routing (OLSR)
  - openvpn

- 
- OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje

- Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql

- 
- Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail  
Xerox Network Systems (XNS) Mail



	<ul style="list-style-type: none"> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo BFD Echo</li> <li>bftp</li> </ul>

- Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol
- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix

- DNSIX security protocol auditing
- domain
  - Domain Name System
- dsp
  - Display Support Protocol
- echo
  - Echo Protocol
- epp
  - Extensible Provisioning Protocol
- esro
  - Efficient Short Remote Operations (ESRO)
- exec
  - Remote Process Execution (Rexec)
- finger
  - Finger protocol
- ftp
  - File Transfer Protocol control
- ftp-data
  - File Transfer Protocol data
- ftps
  - FTPS (FTP over SSL/TLS) control
- ftps-data
  - FTPS (FTP over SSL/TLS) data
- godi
  - Group Domain Of Interpretation (GDOI) protocol
- gopher
  - Gopher protocol
- gtp-c
  - GTP control messages (GTP-C)
- gtp-prime
  - GTP prime CDR logging protocol
- gtp-u
  - GTP user data messages (GTP-U)
- ha-cluster
  - Linux-HA high-availability heartbeat
- hostname

- NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL
- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal

- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B

- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service

- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)

- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol



- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)

- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### value (*number* | *keyword*)

<b>Description</b>	A source port number
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id</a> <i>number</i> <a href="#">match source-port value</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535

---

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp

- 
- Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger

- Finger protocol
- ftp
  - File Transfer Protocol control
- ftp-data
  - File Transfer Protocol data
- ftps
  - FTPS (FTP over SSL/TLS) control
- ftps-data
  - FTPS (FTP over SSL/TLS) data
- godi
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  - Gopher protocol
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  - GTP control messages (GTP-C)
- gtp-prime
  - GTP prime CDR logging protocol
- gtp-u
  - GTP user data messages (GTP-U)
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  - Linux-HA high-availability heartbeat
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  - NIC hostname server
- hp-alarm-mgr
  - HP data alarm manager
- http
  - Hypertext Transfer Protocol
- http-alt
  - FileMaker Web Sharing (HTTP Alternate)
- http-mgmt
  - http-mgmt
- http-rpc
  - Remote procedure call over Hypertext Transfer Protocol
- https
  - Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl

- 
- IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password
  - kshell  
Kerberos Remote shell

- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
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- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
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- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)



- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol

- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)

- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol
- timed  
Timeserver

- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**tcp-flags string****Description**

A logical expression using the &amp;, | and ! logical operators and the TCP flag names: rst, syn and ack.

**Context**[acl system-filter ipv6-filter entry sequence-id number match tcp-flags string](#)**Tree**[tcp-flags](#)**Configurable**

True

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**statistics****Description**

Statistics container for packets matching the system-filter entry

**Context**[acl system-filter ipv6-filter entry sequence-id number statistics](#)**Tree**[statistics](#)**Configurable**

False

**Platforms**

7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-clear *string***

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-match *string***

<b>Description</b>	The elapsed time since a packet last matched the entry, considering all subinterfaces.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number statistics last-match string</a>
<b>Tree</b>	<a href="#">last-match</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**matched-packets *number***

<b>Description</b>	The number of packets matching the entry since it was programmed or since the last clear, summed across all subinterfaces
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number statistics matched-packets number</a>
<b>Tree</b>	<a href="#">matched-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**tcam-entries *number***

<b>Description</b>	The number of TCAM entries required to implement a single instance of this filter rule.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number tcam-entries number</a>

<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-clear** *string*

<b>Description</b>	Time of the last clear command performed by the user at this level
<b>Context</b>	<a href="#">acl system-filter ipv6-filter last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **tcam-profile** *keyword*

<b>Description</b>	Specify the TCAM resource management profile
<b>Context</b>	<a href="#">acl tcam-profile</a> <i>keyword</i>
<b>Tree</b>	<a href="#">tcam-profile</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>default</b> Default allocation that provides twice as many resources to ingress ACLs as egress ACLs</li> <li>• <b>ipv4-egress-scaled</b> Alternate allocation that provides more resources to IPv4 egress ACLs than any other application</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 4 bfd

```

bfd
+ micro-bfd-sessions
+ lag-interface name reference
+ admin-state keyword
+ desired-minimum-transmit-interval number
+ detection-multiplier number
+ local-address (ipv4-address | ipv6-address)
- member-interface name string
- active-receive-interval number
- active-transmit-interval number
- async
- last-clear string
- last-packet-received string
- last-packet-transmitted string
- received-errored-packets number
- received-packets number
- transmitted-packets number
- up-transitions number
- failure-transitions number
- last-failure-time string
- last-state-transition string
- local-diagnostic-code keyword
- local-discriminator number
- remote-control-plane-independent boolean
- remote-diagnostic-code keyword
- remote-discriminator number
- remote-minimum-receive-interval number
- remote-multiplier number
- remote-session-state keyword
- session-state keyword
+ remote-address (ipv4-address | ipv6-address)
+ required-minimum-receive number
- network-instance name string
- peer local-discriminator number
- active-receive-interval number
- active-transmit-interval number
- async
- last-clear string
- last-packet-received string
- last-packet-transmitted string
- received-errored-packets number
- received-packets number
- transmitted-packets number
- up-transitions number
- failure-transitions number
- ipv6-link-local-interface string
- last-failure-time string
- last-state-transition string
- local-address (ipv4-address | ipv6-address)
- local-diagnostic-code keyword
- oper-state keyword
- remote-address (ipv4-address | ipv6-address)
- remote-control-plane-independent boolean
- remote-diagnostic-code keyword
- remote-discriminator number
- remote-minimum-receive-interval number

```

```
- remote-multiplier number
- remote-session-state keyword
- session-state keyword
- sr-policy-color number
- sr-policy-endpoint (ipv4-address | ipv6-address)
- sr-policy-segment-list-id number
- subscribed-protocols string
+ subinterface id string
+ admin-state keyword
+ desired-minimum-transmit-interval number
+ detection-multiplier number
+ max-hop-count number
+ minimum-echo-receive-interval number
+ required-minimum-receive number
- total-bfd-sessions number
- total-unmatched-bfd-packets number
```



## 4.1 bfd Descriptions

### **bfd**

<b>Description</b>	Context to configure BFD parameters and report BFD sessions state
<b>Context</b>	<a href="#">bfd</a>
<b>Tree</b>	<a href="#">bfd</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **micro-bfd-sessions**

<b>Description</b>	Context to configure micro-BFD session parameters and report sessions state
<b>Context</b>	<a href="#">bfd micro-bfd-sessions</a>
<b>Tree</b>	<a href="#">micro-bfd-sessions</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **lag-interface [name reference](#)**

<b>Description</b>	List of interface references to associate a micro-BFD session config and state
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name reference</a>
<b>Tree</b>	<a href="#">lag-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **name reference**

<b>Description</b>	Reference ID for associated lag interface Example: lag1 (Reference Interface lag1).
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name reference</a>

<b>Reference</b>	<a href="#">interface name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **admin-state** *keyword*

<b>Description</b>	Administratively enable or disable BFD for this subinterface
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <b>admin-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **desired-minimum-transmit-interval** *number*

<b>Description</b>	<p>The minimum interval between transmission of BFD control packets</p> <p>This value is advertised to the peer, however the actual interval used is specified by taking the maximum of desired-minimum-transmit-interval and the value of the remote required-minimum-receive interval value. This value is specified as an integer number of microseconds.</p>
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <b>desired-minimum-transmit-interval</b> <i>number</i>
<b>Tree</b>	<a href="#">desired-minimum-transmit-interval</a>
<b>Range</b>	10000 to 100000000
<b>Default</b>	1000000
<b>Units</b>	microseconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**detection-multiplier** *number*

<b>Description</b>	The number of packets that must be missed to declare this session as down The detection interval for the BFD session is calculated by multiplying the value of the negotiated transmission interval by this value.
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">detection-multiplier number</a>
<b>Tree</b>	<a href="#">detection-multiplier</a>
<b>Range</b>	3 to 20
<b>Default</b>	3
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**local-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	IP address to be used as source address in BFD packets
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">local-address (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**member-interface** *name string*

<b>Description</b>	List of interface references to associate a micro-BFD session config and state
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name string</a>
<b>Tree</b>	<a href="#">member-interface</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**name** *string*

<b>Description</b>	Reference ID for associated interface Example: ethernet-2/1 (Reference Interface ethernet-2/1).
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**active-receive-interval** *number*

<b>Description</b>	The receive interval currently being used by this BFD session This is the amount of time the BFD state machine expects between receiving BFD messages from the remote peer.
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string</i> <a href="#">active-receive-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">active-receive-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**active-transmit-interval** *number*

<b>Description</b>	The transmit interval currently being used by this BFD session This is the amount of time the local BFD agent will wait between the sending of BFD messages to the remote peer
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string</i> <a href="#">active-transmit-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">active-transmit-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**async**

<b>Description</b>	Container for async BFD operational state parameters
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<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async</i>
<b>Tree</b>	<a href="#">async</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the session counters were cleared.
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async last-clear string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-packet-received** *string*

<b>Description</b>	Timestamp for when the last BFD packet was received for this session
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async last-packet-received string</i>
<b>Tree</b>	<a href="#">last-packet-received</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-packet-transmitted** *string*

<b>Description</b>	Timestamp for when the last BFD packet was transmitted for this session
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async last-packet-transmitted string</i>
<b>Tree</b>	<a href="#">last-packet-transmitted</a>
<b>String Length</b>	20 to 32

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### received-errored-packets *number*

<b>Description</b>	Counter for the number of BFD packets received with BFD level errors
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async received-errored-packets number</i>
<b>Tree</b>	<a href="#">received-errored-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### received-packets *number*

<b>Description</b>	Counter for the number of BFD packets received for this session
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async received-packets number</i>
<b>Tree</b>	<a href="#">received-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### transmitted-packets *number*

<b>Description</b>	Counter for the number of BFD packets transmitted for this session
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string async transmitted-packets number</i>
<b>Tree</b>	<a href="#">transmitted-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **up-transitions** *number*

**Description** Counter for the number of UP transitions for this BFD session

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string* [async up-transitions](#) *number*

**Tree** [up-transitions](#)

**Default** 0

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **failure-transitions** *number*

**Description** The number of times that the BFD session has transitioned out of the up state

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string* [failure-transitions](#) *number*

**Tree** [failure-transitions](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **last-failure-time** *string*

**Description** Timestamp of the last BFD session transition out of the up state to down state

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string* [last-failure-time](#) *string*

**Tree** [last-failure-time](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-state-transition** *string*

<b>Description</b>	Timestamp of the last micro-BFD session transition from any state to any state. Time of the session in the current state can be calculated from this value.
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string last-state-transition string</i>
<b>Tree</b>	<a href="#">last-state-transition</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**local-diagnostic-code** *keyword*

<b>Description</b>	The local BFD diagnostic code indicating the most recent reason for failure of this BFD session
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string local-diagnostic-code keyword</i>
<b>Tree</b>	<a href="#">local-diagnostic-code</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• NO_DIAGNOSTIC No diagnostic code was specified, or the session has not changed state</li> <li>• DETECTION_TIMEOUT The control detection time expired: no BFD packet was received within the required period</li> <li>• ECHO_FAILED The BFD echo function failed - echo packets have not been received for the required period of time</li> <li>• NEIGHBOR_SIGNED_DOWN The neighbor signaled session down</li> <li>• FORWARDING_RESET The forwarding plane in the local system was reset The remote system cannot rely on the forwarding state of the device specifying this error code.</li> <li>• PATH_DOWN Signalling outside of BFD specified that the path underlying this session has failed</li> <li>• CONCATENATED_PATH_DOWN</li> </ul>



A segment on the path between source and destination has failed

When a BFD session runs over a series of path segments, this error code indicates that a subsequent path segment (i.e., one in the transmit path between the source and destination of the session) has failed.

- ADMIN\_DOWN

The BFD session has been administratively disabled by the peer

- REVERSE\_CONCATENATED\_PATH\_DOWN

A segment on the reverse path between destination and source has failed

In the case that a BFD session is running over a series of path segments, this error code indicates that a path segment on the reverse path (i.e., in the transmit direction from the destination to the source of the session) has failed.

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### local-discriminator *number*

<b>Description</b>	BFD session local discriminator
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string</i> <a href="#">local-discriminator</a> <i>number</i>
<b>Tree</b>	<a href="#">local-discriminator</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### remote-control-plane-independent *boolean*

<b>Description</b>	Indicates if the remote neighbor has set the control independent flag
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string</i> <a href="#">remote-control-plane-independent</a> <i>boolean</i>
<b>Tree</b>	<a href="#">remote-control-plane-independent</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**remote-diagnostic-code** *keyword*

<b>Description</b>	The remote BFD diagnostic code indicating the remote system's reason for failure of the BFD session
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">member-interface name</a> <i>string</i> <a href="#">remote-diagnostic-code</a> <i>keyword</i>
<b>Tree</b>	<a href="#">remote-diagnostic-code</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>NO_DIAGNOSTIC</b> No diagnostic code was specified, or the session has not changed state</li> <li>• <b>DETECTION_TIMEOUT</b> The control detection time expired: no BFD packet was received within the required period</li> <li>• <b>ECHO_FAILED</b> The BFD echo function failed - echo packets have not been received for the required period of time</li> <li>• <b>NEIGHBOR_SIGNALED_DOWN</b> The neighbor signaled session down</li> <li>• <b>FORWARDING_RESET</b> The forwarding plane in the local system was reset The remote system cannot rely on the forwarding state of the device specifying this error code.</li> <li>• <b>PATH_DOWN</b> Signalling outside of BFD specified that the path underlying this session has failed</li> <li>• <b>CONCATENATED_PATH_DOWN</b> A segment on the path between source and destination has failed When a BFD session runs over a series of path segments, this error code indicates that a subsequent path segment (i.e., one in the transmit path between the source and destination of the session) has failed.</li> <li>• <b>ADMIN_DOWN</b> The BFD session has been administratively disabled by the peer</li> <li>• <b>REVERSE_CONCATENATED_PATH_DOWN</b> A segment on the reverse path between destination and source has failed In the case that a BFD session is running over a series of path segments, this error code indicates that a path segment on the reverse path (i.e., in the transmit direction from the destination to the source of the session) has failed.</li> </ul>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### remote-discriminator *number*

**Description** A unique identifier used by the remote system to identify this BFD session

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string remote-discriminator number*

**Tree** [remote-discriminator](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### remote-minimum-receive-interval *number*

**Description** The value of the minimum receive interval that was specified by the peer  
This value references the value in the most recent BFD control packet received from the peer.

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string remote-minimum-receive-interval number*

**Tree** [remote-minimum-receive-interval](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### remote-multiplier *number*

**Description** The current number of packets that must be missed to declare the session as down  
The detection interval for the BFD session is calculated by multiplying the value of the negotiated transmission interval by this value.

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string remote-multiplier number*

**Tree** [remote-multiplier](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **remote-session-state** *keyword*

**Description** The reported state of the BFD session according to the remote system  
This state reflects the last state reported in a BFD control packet.

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string* [remote-session-state](#) *keyword*

**Tree** [remote-session-state](#)

**Options**

- ADMIN\_DOWN  
The BFD session is administratively disabled
- DOWN  
The BFD session is perceived to be down by the system
- INIT  
The BFD session is perceived to be initialising by the system
- UP  
The BFD session is perceived to be up by the system

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **session-state** *keyword*

**Description** The state of the BFD session perceived by the local system

**Context** [bfd micro-bfd-sessions lag-interface name](#) *reference* [member-interface name](#) *string* [session-state](#) *keyword*

**Tree** [session-state](#)

**Options**

- ADMIN\_DOWN  
The BFD session is administratively disabled
- DOWN  
The BFD session is perceived to be down by the system
- INIT  
The BFD session is perceived to be initialising by the system
- UP

The BFD session is perceived to be up by the system

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### remote-address (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The remote IP address for the far-end of the BFD session This must be the same IP version as the local-address.
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">remote-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">remote-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### required-minimum-receive *number*

<b>Description</b>	The minimum interval between received BFD control packets that this system should support  This value is advertised to the remote peer to indicate the maximum frequency (i.e., minimum inter-packet interval) between BFD control packets that is acceptable to the local system. This value is specified as an integer number of microseconds.
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name</a> <i>reference</i> <a href="#">required-minimum-receive number</a>
<b>Tree</b>	<a href="#">required-minimum-receive</a>
<b>Range</b>	10000 to 100000000
<b>Default</b>	1000000
<b>Units</b>	microseconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**network-instance** *name string*

<b>Description</b>	network-instance context for BFD session.
<b>Context</b>	<a href="#">bfd network-instance name string</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	A unique name identifying the network instance
<b>Context</b>	<a href="#">bfd network-instance name string</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**peer** *local-discriminator number*

<b>Description</b>	BFD session state related to this peer
<b>Context</b>	<a href="#">bfd network-instance name string peer local-discriminator number</a>
<b>Tree</b>	<a href="#">peer</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**local-discriminator** *number*

<b>Description</b>	BFD session local discriminator
<b>Context</b>	<a href="#">bfd network-instance name string peer local-discriminator number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-receive-interval** *number*

<b>Description</b>	The receive interval currently being used by this BFD session This is the amount of time the BFD state machine expects between receiving BFD messages from the remote peer.
<b>Context</b>	<a href="#">bfd network-instance name string peer local-discriminator number active-receive-interval number</a>

<b>Tree</b>	<a href="#">active-receive-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **active-transmit-interval** *number*

<b>Description</b>	The transmit interval currently being used by this BFD session This is the amount of time the local BFD agent will wait between the sending of BFD messages to the remote peer
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">active-transmit-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">active-transmit-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **async**

<b>Description</b>	Container for async BFD operational state parameters
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async</a>
<b>Tree</b>	<a href="#">async</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Timestamp of the last time the session counters were cleared.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async</a> <a href="#">last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-packet-received** *string*

<b>Description</b>	Timestamp for when the last BFD packet was received for this session
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<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async last-packet-received</a> <i>string</i>
<b>Tree</b>	<a href="#">last-packet-received</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-packet-transmitted** *string*

<b>Description</b>	Timestamp for when the last BFD packet was transmitted for this session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async last-packet-transmitted</a> <i>string</i>
<b>Tree</b>	<a href="#">last-packet-transmitted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **received-errored-packets** *number*

<b>Description</b>	Counter for the number of BFD packets received with BFD level errors
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async received-errored-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">received-errored-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **received-packets** *number*

<b>Description</b>	Counter for the number of BFD packets received for this session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async received-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">received-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**transmitted-packets** *number*

<b>Description</b>	Counter for the number of BFD packets transmitted for this session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async transmitted-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">transmitted-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-transitions** *number*

<b>Description</b>	Counter for the number of UP transitions for this BFD session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">async up-transitions</a> <i>number</i>
<b>Tree</b>	<a href="#">up-transitions</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-transitions** *number*

<b>Description</b>	The number of times that the BFD session has transitioned out of the up state
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">failure-transitions</a> <i>number</i>
<b>Tree</b>	<a href="#">failure-transitions</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv6-link-local-interface** *string*

<b>Description</b>	For IPv6 link local sessions only, indicates the local interface with which the session is associated.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">ipv6-link-local-interface</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv6-link-local-interface</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-failure-time** *string*

<b>Description</b>	Timestamp of the last BFD session transition out of the up state to down state
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">last-failure-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-failure-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-state-transition** *string*

<b>Description</b>	Timestamp of the last BFD session transition from any state to any state Time of the session in the current state can be calculated from this value.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">last-state-transition</a> <i>string</i>
<b>Tree</b>	<a href="#">last-state-transition</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**local-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	IP address to be used as source address in BFD packets
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**local-diagnostic-code** *keyword*

<b>Description</b>	The local BFD diagnostic code indicating the most recent reason for failure of this BFD session
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<b>Context</b>	<code>bfd network-instance name string peer local-discriminator number local-diagnostic-code keyword</code>
<b>Tree</b>	<code>local-diagnostic-code</code>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>NO_DIAGNOSTIC</b> No diagnostic code was specified, or the session has not changed state</li> <li>• <b>DETECTION_TIMEOUT</b> The control detection time expired: no BFD packet was received within the required period</li> <li>• <b>ECHO_FAILED</b> The BFD echo function failed - echo packets have not been received for the required period of time</li> <li>• <b>NEIGHBOR_SIGNED_DOWN</b> The neighbor signaled session down</li> <li>• <b>FORWARDING_RESET</b> The forwarding plane in the local system was reset The remote system cannot rely on the forwarding state of the device specifying this error code.</li> <li>• <b>PATH_DOWN</b> Signalling outside of BFD specified that the path underlying this session has failed</li> <li>• <b>CONCATENATED_PATH_DOWN</b> A segment on the path between source and destination has failed When a BFD session runs over a series of path segments, this error code indicates that a subsequent path segment (i.e., one in the transmit path between the source and destination of the session) has failed.</li> <li>• <b>ADMIN_DOWN</b> The BFD session has been administratively disabled by the peer</li> <li>• <b>REVERSE_CONCATENATED_PATH_DOWN</b> A segment on the reverse path between destination and source has failed In the case that a BFD session is running over a series of path segments, this error code indicates that a path segment on the reverse path (i.e., in the transmit direction from the destination to the source of the session) has failed.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms
<b>oper-state keyword</b>	
<b>Description</b>	Details the operational state of the session

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<b>Context</b>	<code>bfd network-instance name string peer local-discriminator number oper-state keyword</code>
<b>Tree</b>	<code>oper-state</code>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>up</code> Component or process is operational</li> <li>• <code>down</code> Component or process is not operational</li> <li>• <code>empty</code> Component slot is empty</li> <li>• <code>downloading</code> Component is downloading image into memory</li> <li>• <code>booting</code> Component is booting downloaded image</li> <li>• <code>starting</code> Component image operational, application processes starting</li> <li>• <code>failed</code> Component or process has failed</li> <li>• <code>synchronizing</code> Component is currently being synchronized</li> <li>• <code>upgrading</code> Component is currently being upgraded</li> <li>• <code>low-power</code> Component is offline due to insufficient system power</li> <li>• <code>degraded</code> Component or process is in a degraded state</li> <li>• <code>warm-reboot</code> Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• <code>waiting</code> Component or process is currently waiting This state can be set by event handler when the <code>reinvoke-with-delay</code> action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remote-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The remote IP address for the far-end of the BFD session This must be the same IP version as the local-address.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">remote-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remote-control-plane-independent** *boolean*

<b>Description</b>	Indicates if the remote neighbor has set the control independent flag
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-control-plane-independent</a> <i>boolean</i>
<b>Tree</b>	<a href="#">remote-control-plane-independent</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remote-diagnostic-code** *keyword*

<b>Description</b>	The remote BFD diagnostic code indicating the remote system's reason for failure of the BFD session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-diagnostic-code</a> <i>keyword</i>
<b>Tree</b>	<a href="#">remote-diagnostic-code</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• NO_DIAGNOSTIC No diagnostic code was specified, or the session has not changed state</li> <li>• DETECTION_TIMEOUT The control detection time expired: no BFD packet was received within the required period</li> <li>• ECHO_FAILED The BFD echo function failed - echo packets have not been received for the required period of time</li> <li>• NEIGHBOR_SIGNED_DOWN The neighbor signaled session down</li> <li>• FORWARDING_RESET</li> </ul>

The forwarding plane in the local system was reset

The remote system cannot rely on the forwarding state of the device specifying this error code.

- **PATH\_DOWN**

Signalling outside of BFD specified that the path underlying this session has failed

- **CONCATENATED\_PATH\_DOWN**

A segment on the path between source and destination has failed

When a BFD session runs over a series of path segments, this error code indicates that a subsequent path segment (i.e., one in the transmit path between the source and destination of the session) has failed.

- **ADMIN\_DOWN**

The BFD session has been administratively disabled by the peer

- **REVERSE\_CONCATENATED\_PATH\_DOWN**

A segment on the reverse path between destination and source has failed

In the case that a BFD session is running over a series of path segments, this error code indicates that a path segment on the reverse path (i.e., in the transmit direction from the destination to the source of the session) has failed.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **remote-discriminator *number***

<b>Description</b>	A unique identifier used by the remote system to identify this BFD session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-discriminator</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-discriminator</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **remote-minimum-receive-interval *number***

<b>Description</b>	The value of the minimum receive interval that was specified by the peer This value references the value in the most recent BFD control packet received from the peer.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-minimum-receive-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-minimum-receive-interval</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **remote-multiplier** *number*

<b>Description</b>	The current number of packets that must be missed to declare the session as down  The detection interval for the BFD session is calculated by multiplying the value of the negotiated transmission interval by this value.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-multiplier</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-multiplier</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **remote-session-state** *keyword*

<b>Description</b>	The reported state of the BFD session according to the remote system  This state reflects the last state reported in a BFD control packet.
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">remote-session-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">remote-session-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ADMIN_DOWN The BFD session is administratively disabled</li> <li>• DOWN The BFD session is perceived to be down by the system</li> <li>• INIT The BFD session is perceived to be initialising by the system</li> <li>• UP The BFD session is perceived to be up by the system</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **session-state** *keyword*

<b>Description</b>	The state of the BFD session perceived by the local system
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<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">session-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">session-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>ADMIN_DOWN The BFD session is administratively disabled</li> <li>DOWN The BFD session is perceived to be down by the system</li> <li>INIT The BFD session is perceived to be initialising by the system</li> <li>UP The BFD session is perceived to be up by the system</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **sr-policy-color** *number*

<b>Description</b>	SR-Policy color associated with this seamless BFD session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">sr-policy-color</a> <i>number</i>
<b>Tree</b>	<a href="#">sr-policy-color</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **sr-policy-endpoint** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	SR-Policy endpoint IP address associated with this seamless BFD session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">sr-policy-endpoint</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">sr-policy-endpoint</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **sr-policy-segment-list-id** *number*

<b>Description</b>	SR-Policy segment ID associated with this seamless BFD session
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">sr-policy-segment-list-id</a> <i>number</i>



<b>Tree</b>	<a href="#">sr-policy-segment-list-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### subscribed-protocols *string*

<b>Description</b>	Indicates the set of protocols that currently use this BFD session for liveliness detection
<b>Context</b>	<a href="#">bfd network-instance name</a> <i>string</i> <a href="#">peer local-discriminator</a> <i>number</i> <a href="#">subscribed-protocols</a> <i>string</i>
<b>Tree</b>	<a href="#">subscribed-protocols</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### subinterface *id string*

<b>Description</b>	List of subinterface references to associating BFD config and state
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### id *string*

<b>Description</b>	Reference ID for associated subinterface Example: ethernet-2/1.100 (Reference Interface ethernet-2/1, subinterface 100).
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### admin-state *keyword*

<b>Description</b>	Administratively enable or disable BFD for this subinterface
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable

<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **desired-minimum-transmit-interval** *number*

<b>Description</b>	<p>The minimum interval between transmission of BFD control packets</p> <p>This value is advertised to the peer, however the actual interval used is specified by taking the maximum of desired-minimum-transmit-interval and the value of the remote required-minimum-receive interval value. This value is specified as an integer number of microseconds.</p>
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i> <a href="#">desired-minimum-transmit-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">desired-minimum-transmit-interval</a>
<b>Range</b>	10000 to 100000000
<b>Default</b>	1000000
<b>Units</b>	microseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **detection-multiplier** *number*

<b>Description</b>	<p>The number of packets that must be missed to declare this session as down</p> <p>The detection interval for the BFD session is calculated by multiplying the value of the negotiated transmission interval by this value.</p>
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i> <a href="#">detection-multiplier</a> <i>number</i>
<b>Tree</b>	<a href="#">detection-multiplier</a>
<b>Range</b>	3 to 20
<b>Default</b>	3
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **max-hop-count** *number*

<b>Description</b>	TTL to be used in the BFD IP header for multihop BFD.
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i> <a href="#">max-hop-count</a> <i>number</i>

<b>Tree</b>	<a href="#">max-hop-count</a>
<b>Range</b>	2 to 255
<b>Default</b>	255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **minimum-echo-receive-interval** *number*

<b>Description</b>	The minimum interval between echo packets the local node can receive. Implicitly enabled echo mode on the associated interface.
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i> <a href="#">minimum-echo-receive-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">minimum-echo-receive-interval</a>
<b>Range</b>	0   250000 to 100000000
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **required-minimum-receive** *number*

<b>Description</b>	The minimum interval between received BFD control packets that this system should support.  This value is advertised to the remote peer to indicate the maximum frequency (i.e., minimum inter-packet interval) between BFD control packets that is acceptable to the local system. This value is specified as an integer number of microseconds.
<b>Context</b>	<a href="#">bfd subinterface id</a> <i>string</i> <a href="#">required-minimum-receive</a> <i>number</i>
<b>Tree</b>	<a href="#">required-minimum-receive</a>
<b>Range</b>	10000 to 100000000
<b>Default</b>	1000000
<b>Units</b>	microseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **total-bfd-sessions** *number*

<b>Description</b>	Counter for the total number of BFD sessions
--------------------	--

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<b>Context</b>	<a href="#">bfd total-bfd-sessions</a> <i>number</i>
<b>Tree</b>	<a href="#">total-bfd-sessions</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-unmatched-bfd-packets** *number*

<b>Description</b>	Counter for the total number of BFD packets received not matching a BFD session
<b>Context</b>	<a href="#">bfd total-unmatched-bfd-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">total-unmatched-bfd-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## 5 interface

```

interface name string
- adapter
  - model-number string
  - type keyword
  - vendor-manufacture-date string
  - vendor-oui string
  - vendor-part-number string
  - vendor-serial-number string
+ admin-state keyword
+ breakout-mode
  + breakout-port-speed keyword
  + num-breakout-ports keyword
+ description string
+ ethernet
  + aggregate-id reference
  + auto-negotiate boolean
  + dac-link-training boolean
  + duplex-mode keyword
  + flow-control
    + receive boolean
  + forwarding-viable boolean
  + hold-time
    + down number
    - down-expires string
    + up number
    - up-expires string
  - hw-mac-address string
  + l2cp-transparency
    + dot1x
      - oper-rule keyword
      + tunnel boolean
    + lacp
      - oper-rule keyword
      + tunnel boolean
    + lldp
      - oper-rule keyword
      + tunnel boolean
    + ptp
      - oper-rule keyword
      + tunnel boolean
    + tunnel-all-l2cp boolean
  + xstp
    - oper-rule keyword
    + tunnel boolean
+ lacp-port-priority number
+ mac-address string
- physical-medium keyword
+ port-speed keyword
+ ptp-asymmetry number
+ reload-delay number
- reload-delay-expires string
+ standby-signaling keyword
- statistics
  - in-1024b-to-1518b-frames number
  - in-128b-to-255b-frames number
  - in-1519b-or-longer-frames number

```

```

- in-256b-to-511b-frames number
- in-512b-to-1023b-frames number
- in-64b-frames number
- in-65b-to-127b-frames number
- in-crc-error-frames number
- in-fragment-frames number
- in-jabber-frames number
- in-mac-pause-frames number
- in-oversize-frames number
- last-clear string
- out-1024b-to-1518b-frames number
- out-128b-to-255b-frames number
- out-1519b-or-longer-frames number
- out-256b-to-511b-frames number
- out-512b-to-1023b-frames number
- out-64b-frames number
- out-65b-to-127b-frames number
- out-mac-pause-frames number
+ storm-control
+ broadcast-rate number
+ multicast-rate number
- operational-broadcast-rate number
- operational-multicast-rate number
- operational-unknown-unicast-rate number
+ units keyword
+ unknown-unicast-rate number
- ifindex number
+ lag
+ lacp
+ admin-key number
+ interval keyword
+ lacp-mode keyword
+ system-id-mac string
+ system-priority number
+ lacp-fallback-mode keyword
+ lacp-fallback-timeout number
- lag-speed number
+ lag-type keyword
- member name reference
- lacp
- activity keyword
- aggregatable boolean
- collecting boolean
- distributing boolean
- lacp-port-priority number
- oper-key number
- partner-id string
- partner-key number
- partner-port-num number
- port-num number
- statistics
- lacp-errors number
- lacp-in-pkts number
- lacp-out-pkts number
- lacp-rx-errors number
- lacp-tx-errors number
- lacp-unknown-errors number
- synchronization keyword
- system-id string
- timeout keyword
- last-change string
- microbfd-enabled boolean
- oper-down-reason keyword
- oper-state keyword

```

```

+ member-speed keyword
+ min-links number
- last-change string
+ loopback-mode boolean
+ mtu number
- oper-down-reason keyword
- oper-state keyword
+ p4rt
+ id number
- parent-id number
- phy-group-members string
+ qos
+ output
+ queue queue-name (reference | keyword)
- active-queue-management
- ecn-slope ecn-drop-probability keyword
- max-probability number
- max-threshold-bytes number
- min-threshold-bytes number
- slope-enabled boolean
- wred-slope traffic-type keyword drop-probability keyword
- max-probability number
- max-threshold-bytes number
- min-threshold-bytes number
- slope-enabled boolean
- forwarding-class string
- queue-depth
- high-threshold-bytes number
- last-high-threshold-time string
- maximum-burst-size number
+ scheduling
- peak-rate-bps number
+ peak-rate-percent number
- scheduler-node reference
+ strict-priority boolean
+ weight number
+ template reference
+ voq-template reference
- queue-statistics
- queue queue-name (reference | keyword)
- final-dropped-octets number
- final-dropped-packets number
- last-clear string
- transmitted-octets number
- transmitted-packets number
- virtual-output-queue slot number
- dropped-octets
- high-drop-probability number
- low-drop-probability number
- medium-drop-probability number
- dropped-packets
- high-drop-probability number
- low-drop-probability number
- medium-drop-probability number
- forwarded-octets
- high-drop-probability number
- low-drop-probability number
- medium-drop-probability number
- forwarded-packets
- high-drop-probability number
- low-drop-probability number
- medium-drop-probability number
- queue-depth
- high-threshold-bytes number

```

```

- last-high-threshold-time string
+ scheduler
+ scheduler-policy reference
+ tier level number
  + node node-number number
  + strict-priority boolean
  + weight number
+ sflow
+ admin-state keyword
- statistics
- carrier-transitions number
- in-broadcast-packets number
- in-discarded-packets number
- in-error-packets number
- in-fcs-error-packets number
- in-multicast-packets number
- in-octets number
- in-packets number
- in-unicast-packets number
- last-clear string
- out-broadcast-packets number
- out-discarded-packets number
- out-error-packets number
- out-mirror-octets number
- out-mirror-packets number
- out-multicast-packets number
- out-octets number
- out-packets number
- out-unicast-packets number
+ subinterface index number
+ acl
+ input
+ ipv4-filter reference
+ ipv6-filter reference
+ mac-filter reference
+ output
+ ipv4-filter reference
+ ipv6-filter reference
+ mac-filter reference
+ admin-state keyword
+ anycast-gw
+ anycast-gw-mac string
- anycast-gw-mac-origin keyword
+ virtual-router-id number
+ bridge-table
+ discard-unknown-src-mac boolean
+ mac-duplication
+ action keyword
- duplicate-entries
  - mac address string
  - dup-detect-time string
  - hold-down-time-remaining (keyword | number)
+ mac-learning
+ admin-state keyword
+ aging
+ admin-state keyword
- learnt-entries
- mac address string
  - aging (number | keyword)
  - last-update string
+ mac-limit
+ maximum-entries number
+ warning-threshold-pct number
- mac-table

```



```

- mac address string
- failed-slots number
- last-update string
- not-programmed-reason keyword
- type keyword
- statistics
- active-entries number
- failed-entries number
- mac-type type keyword
- active-entries number
- failed-entries number
- total-entries number
- total-entries number
+ description string
- ethernet-segment-association
- designated-forwarder boolean
- es-managed boolean
- ethernet-segment string
- ifindex number
+ ip-mtu number
+ ipv4
+ address ip-prefix string
+ anycast-gw boolean
- origin keyword
+ primary
- status keyword
+ admin-state keyword
+ allow-directed-broadcast boolean
+ arp
+ debug keyword
+ duplicate-address-detection boolean
+ evpn
+ advertise route-type keyword
+ host-route
+ populate route-type keyword
+ datapath-programming boolean
+ learn-unsolicited boolean
+ neighbor ipv4-address string
- datapath-programming
- last-failed-complexes string
- status keyword
- expiration-time string
+ link-layer-address string
- origin keyword
+ proxy-arp boolean
+ timeout number
+ virtual-ipv4-discovery
+ address ipv4-address string
+ allowed-macs string
+ probe-bridged-subinterfaces string
+ probe-interval number
- statistics
- out-probe-packets number
- statistics
- out-total-probe-packets number
+ dhcp-client
+ trace-options
+ trace keyword
+ dhcp-relay
+ admin-state keyword
+ gi-address string
+ network-instance reference
- oper-down-reason keyword
- oper-state keyword

```

```

+ option keyword
+ server (ipv4-address | domain-name)
- statistics
  - client-packets-discarded number
  - client-packets-received number
  - client-packets-relayed number
  - server-packets-discarded number
  - server-packets-received number
  - server-packets-relayed number
+ trace-options
  + trace keyword
+ use-gi-addr-as-src-ip-addr boolean
+ dhcp-server
+ admin-state keyword
- oper-state keyword
- statistics
  - in-discarded-packets number
  - in-error-packets number
  - in-forwarded-octets number
  - in-forwarded-packets number
  - in-matched-ra-packets number
  - in-octets number
  - in-packets number
  - in-terminated-octets number
  - in-terminated-packets number
  - last-clear string
  - out-discarded-packets number
  - out-error-packets number
  - out-forwarded-octets number
  - out-forwarded-packets number
  - out-octets number
  - out-originated-octets number
  - out-originated-packets number
  - out-packets number
+ ipv6
+ address ip-prefix string
  + anycast-gw boolean
  - origin keyword
  + primary
  - status keyword
+ admin-state keyword
+ dhcp-client
  + trace-options
    + trace keyword
+ dhcp-relay
  + admin-state keyword
  + network-instance reference
  - oper-down-reason keyword
  - oper-state keyword
  + option keyword
  + server (ipv6-address | domain-name)
  + source-address string
  - statistics
    - client-packets-discarded number
    - client-packets-received number
    - client-packets-relayed number
    - server-packets-discarded number
    - server-packets-received number
    - server-packets-relayed number
  + trace-options
    + trace keyword
+ dhcpv6-server
  + admin-state keyword
  - oper-state keyword

```

```

+ neighbor-discovery
+   debug keyword
+   duplicate-address-detection boolean
+   evpn
+     advertise route-type keyword
+   host-route
+     populate route-type keyword
+     datapath-programming boolean
+   learn-unsolicited keyword
+   neighbor ipv6-address string
+     - current-state keyword
+     - datapath-programming
+     - last-failed-complexes string
+     - status keyword
+     - is-router boolean
+     link-layer-address string
+     - next-state-time string
+     - origin keyword
+   proxy-nd boolean
+   reachable-time number
+   stale-time number
+   virtual-ipv6-discovery
+     address ipv6-address string
+     + allowed-macs string
+     + probe-bridged-subinterfaces string
+     + probe-interval number
+     - statistics
+     - out-probe-packets number
+     - statistics
+     - out-total-probe-packets number
+ router-advertisement
+   debug keyword
+   router-role
+     admin-state keyword
+     current-hop-limit number
+     ip-mtu number
+     managed-configuration-flag boolean
+     max-advertisement-interval number
+     min-advertisement-interval number
+     other-configuration-flag boolean
+     prefix ipv6-prefix string
+     + autonomous-flag boolean
+     + on-link-flag boolean
+     + preferred-lifetime (keyword | number)
+     + valid-lifetime (keyword | number)
+     reachable-time number
+     retransmit-time number
+     router-lifetime number
-   statistics
-     in-discarded-packets number
-     in-error-packets number
-     in-forwarded-octets number
-     in-forwarded-packets number
-     in-matched-ra-packets number
-     in-octets number
-     in-packets number
-     in-terminated-octets number
-     in-terminated-packets number
-     last-clear string
-     out-discarded-packets number
-     out-error-packets number
-     out-forwarded-octets number
-     out-forwarded-packets number
-     out-octets number

```

```

- out-originated-octets number
- out-originated-packets number
- out-packets number
+ l2-mtu number
- last-change string
+ local-mirror-destination
+ admin-state keyword
- oper-state keyword
- mpls
- statistics
- in-discarded-packets number
- in-error-packets number
- in-forwarded-octets number
- in-forwarded-packets number
- in-octets number
- in-packets number
- last-clear string
- out-error-packets number
- out-forwarded-octets number
- out-forwarded-packets number
- out-octets number
- out-originated-octets number
- out-originated-packets number
- out-packets number
+ mpls-mtu number
- name string
- oper-down-reason keyword
- oper-state keyword
+ qos
+ input
+ classifiers
+ default-drop-probability keyword
+ default-forwarding-class (reference | keyword)
+ dot1p-policy reference
+ dscp-policy reference
+ ipv4-dscp-policy reference
+ ipv6-dscp-policy reference
+ mpls-traffic-class-policy reference
+ multifield
+ ipv4-policy reference
+ ipv6-policy reference
+ policer-templates
- policer sequence-id number
- committed-burst-size number
- committed-rate-kbps number
- maximum-burst-size number
- peak-rate-kbps number
- statistics
- accepted-octets number
- accepted-packets number
- committed-octets number
- committed-packets number
- exceeding-octets number
- exceeding-packets number
- last-clear string
- violating-octets number
- violating-packets number
+ policer-template reference
+ output
+ rewrite-rules
+ dot1p-policy reference
+ dscp-policy reference
+ ipv4-dscp-policy reference
+ ipv6-dscp-policy reference

```

```

    + mpls-traffic-class-policy reference
+ ra-guard
+ policy reference
+ vlan-list vlan-id number
- statistics
- in-discarded-packets number
- in-error-packets number
- in-forwarded-octets number
- in-forwarded-packets number
- in-matched-ra-packets number
- in-octets number
- in-packets number
- in-terminated-octets number
- in-terminated-packets number
- last-clear string
- out-discarded-packets number
- out-error-packets number
- out-forwarded-octets number
- out-forwarded-packets number
- out-octets number
- out-originated-octets number
- out-originated-packets number
- out-packets number
+ type identityref
+ vlan
+ encap
+ single-tagged
+ vlan-id (number | keyword)
+ single-tagged-range
+ low-vlan-id range-low-vlan-id number
+ high-vlan-id number
+ untagged
+ tpid identityref
- traffic-rate
- in-bps number
- out-bps number
+ transceiver
- channel index number
- input-power
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number
- latest-value decimal-number
- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- laser-bias-current
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number
- latest-value decimal-number
- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- output-power
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number
- latest-value decimal-number

```

```

- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- wavelength decimal-number
- connector-type keyword
- date-code string
+ ddm-events boolean
- ethernet-pmd string
- fault-condition boolean
- form-factor keyword
+ forward-error-correction keyword
- input-power
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number
- latest-value decimal-number
- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- laser-bias-current
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number
- latest-value decimal-number
- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- oper-down-reason keyword
- oper-state keyword
- output-power
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number
- latest-value decimal-number
- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- serial-number string
- temperature
- high-alarm-condition boolean
- high-alarm-threshold number
- high-warning-condition boolean
- high-warning-threshold number
- latest-value number
- low-alarm-condition boolean
- low-alarm-threshold number
- low-warning-condition boolean
- low-warning-threshold number
+ tx-laser boolean
- vendor string
- vendor-part-number string
- vendor-revision string
- voltage
- high-alarm-condition boolean
- high-alarm-threshold decimal-number
- high-warning-condition boolean
- high-warning-threshold decimal-number

```

---

```
- latest-value decimal-number
- low-alarm-condition boolean
- low-alarm-threshold decimal-number
- low-warning-condition boolean
- low-warning-threshold decimal-number
- wavelength decimal-number
+ vlan-tagging boolean
```

## 5.1 interface Descriptions

### interface `name string`

<b>Description</b>	The list of named interfaces on the device.
<b>Context</b>	<a href="#">interface name string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name `string`

<b>Description</b>	<p>The name of the interface</p> <p>Valid options are: irb&lt;N&gt;, N=0..255 lif-&lt;lif_name&gt; enp&lt;bus&gt;s&lt;dev&gt;f&lt;fn&gt;, bus=0..255, dev=0..31, fn=0..7 vhn-&lt;vhn_name&gt; lag&lt;N&gt;, N=1..128 [note1] lo&lt;N&gt;, N=0..255 mgmt0 mgmt0-standby ethernet-&lt;slot&gt;/&lt;port&gt; ethernet-&lt;slot&gt;/&lt;mda&gt;/&lt;port&gt; system0</p> <p>&lt;lif_name&gt;=Linux interface name &lt;vhn_name&gt;=vhost interface name &lt;slot&gt;=slot number {1,2,3,..} &lt;mda&gt;=mda id {a,b,c,d} &lt;port&gt;=port id {1,2,3,..}</p> <p>[note1] N=1..32 for 7220-D1. N=1..64 for 7220-D2, 7220-D3, 7220-D5. N=1..127 for 7220-H2, 7220-H3.</p>
<b>Context</b>	<a href="#">interface name string</a>
<b>String Length</b>	3 to 20
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### adapter

<b>Description</b>	State for adapters
<b>Context</b>	<a href="#">interface name string adapter</a>
<b>Tree</b>	<a href="#">adapter</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**model-number** *string*

<b>Description</b>	Model information for the adapter.  This is the information as read from the EEPROM of the part. The string is expected to contain printable ASCII characters, but unprintable ASCII characters read from the EEPROM are not filtered out.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">adapter</a> <a href="#">model-number</a> <i>string</i>
<b>Tree</b>	<a href="#">model-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	Type of adapter for the port.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">adapter</a> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• unknown</li> <li>• qsfp28-to-sfp+/sfp28</li> <li>• cfp-to-qsfp28</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vendor-manufacture-date** *string*

<b>Description</b>	Vendor's date code.  This is the information as read from the EEPROM of the part.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">adapter</a> <a href="#">vendor-manufacture-date</a> <i>string</i>
<b>Tree</b>	<a href="#">vendor-manufacture-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vendor-oui** *string*

<b>Description</b>	Vendor's OUI which contains the IEEE company identifier for the vendor.  This is the information as read from the EEPROM of the part. A value of all zero indicates that the vendor OUI is unspecified.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">adapter</a> <a href="#">vendor-oui</a> <i>string</i>

<b>Tree</b>	<a href="#">vendor-oui</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **vendor-part-number** *string*

<b>Description</b>	Vendor's part number or product name of the adapter.  This is the information as read from the EEPROM of the part. An empty string indicates the vendor part number is unspecified. The string is expected to contain printable ASCII characters, but unprintable ASCII characters read from the EEPROM are not filtered out.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">adapter</a> <a href="#">vendor-part-number</a> <i>string</i>
<b>Tree</b>	<a href="#">vendor-part-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **vendor-serial-number** *string*

<b>Description</b>	Vendor's serial number of the adapter.  This is the information as read from the EEPROM of the part. An empty string indicates the vendor serial number is unspecified. The string is expected to contain printable ASCII characters, but unprintable ASCII characters read from the EEPROM are not filtered out.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">adapter</a> <a href="#">vendor-serial-number</a> <i>string</i>
<b>Tree</b>	<a href="#">vendor-serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	The configured, desired state of the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## breakout-mode

**Description** Configuration of breakout options.  
The 7220 D3 supports 4x10 and 4x25 breakout on ports 3-33. The 7220 D3L supports 4x10 and 4x25 breakout on ports 1-31. The 7220 H3 supports 4x100 breakout on ports 3-34. The 7220 H4 supports 4x100 breakout on ports 1-64. The 7220 D4 supports 4x100 breakout on ports 30-36. The 7220 D4 supports 4x25 breakout on ports 9, 15, 16 and 30-36. The 7220 D4 supports 4x10 breakout on ports 9, 15, 16 and 30-36. The 7220 D5 supports 2x100/4x100 breakout on ports 1-32.

**Context** [interface name](#) *string* [breakout-mode](#)

**Tree** [breakout-mode](#)

**Configurable** True

**Platforms** 7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-H3

## breakout-port-speed *keyword*

**Description** The speed of each breakout port.

**Context** [interface name](#) *string* [breakout-mode](#) [breakout-port-speed](#) *keyword*

**Tree** [breakout-port-speed](#)

**Options**

- 10G
- 25G
- 100G

**Configurable** True

**Platforms** 7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-H3

## num-breakout-ports *keyword*

**Description** The number of breakout ports supported by this connector.

**Context** [interface name](#) *string* [breakout-mode](#) [num-breakout-ports](#) *keyword*

**Tree** [num-breakout-ports](#)

**Options**

- 2
- 4

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-H3

### **description** *string*

<b>Description</b>	A user-configured description of the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ethernet**

<b>Description</b>	Enter the ethernet context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a>
<b>Tree</b>	<a href="#">ethernet</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **aggregate-id** *reference*

<b>Description</b>	lag interface with which this interface is associated.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">aggregate-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">aggregate-id</a>
<b>Reference</b>	<a href="#">interface name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **auto-negotiate** *boolean*

<b>Description</b>	When set to true the interface uses auto-negotiation for speed, duplex and flow-control settings. When set to false, the transmission parameters are specified manually.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">auto-negotiate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">auto-negotiate</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1

### **dac-link-training** *boolean*

<b>Description</b>	If the system detects that the transceiver is connected to a DAC cable then a true setting enables link training for better link stastability. The link training setting must be the same at both ends of the DAC cable or else the link may not come up.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">dac-link-training</a> <i>boolean</i>
<b>Tree</b>	<a href="#">dac-link-training</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **duplex-mode** *keyword*

<b>Description</b>	When auto-negotiate is true, this sets the duplex mode that will be advertised to the peer. When auto-negotiate is false, this directly sets the duplex mode of the interface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">duplex-mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">duplex-mode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• full</li> <li>• half</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1

### **flow-control**

<b>Description</b>	Enter the flow-control context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">flow-control</a>
<b>Tree</b>	<a href="#">flow-control</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**receive *boolean*****Description**

When this is true PAUSE frames received on this interface are accepted and processed, and, if auto-negotiation is enabled it also causes the capability to receive PAUSE frames to be signaled to the peer (applicable only to ports 1-48 of the 7220 IXR-D1 and to mgmt0 and mgmt0-standby ports).

When this is false PAUSE frames received on this interface are ignored, and, if auto-negotiation is enabled it causes the capability to receive PAUSE frames to be signaled to the peer as non-support (applicable only to ports 1-48 of the 7220 IXR-D1 and to mgmt0 and mgmt0-standby ports)

**Context**

[interface name](#) *string* [ethernet flow-control receive](#) *boolean*

**Tree**

[receive](#)

**Configurable**

True

**Platforms**

Supported on all platforms

**forwarding-viable *boolean*****Description**

If true: this LAG member link should be used for the transmission of traffic if all other LAG/port attributes allow it.

If false: this LAG member link should not be used for the transmission of traffic.

In all cases: This LAG member link should process any received frames when it is an active member link. L2 protocols such as LLDP, LACP and micro-BFD should continue to be sent and processed.

**Context**

[interface name](#) *string* [ethernet forwarding-viable](#) *boolean*

**Tree**

[forwarding-viable](#)

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**hold-time****Description**

Configure interface hold timers for Ethernet interfaces

**Context**

[interface name](#) *string* [ethernet hold-time](#)

**Tree**

[hold-time](#)

**Configurable**

True

**Platforms**

Supported on all platforms

**down number**

<b>Description</b>	<p>Holds link down events for the configured time.</p> <p>The hold-time down behavior is triggered with events that try to bring the ethernet interface down and can change quickly. It is not triggered with an admin-state disable event or interface disable due to other internal reasons (such as fabric unavailability). When running, the interface will not be brought down till the timer expires. The typical use of the hold-time down is to provide stability and avoid the protocols to advertise/withdraw messages if there are flapping optics. The hold-time down is aborted if the user does admin-state disable or if the interface is disabled due to other internal reasons that prevent the traffic to be forwarded on the interface.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet hold-time down number</a>
<b>Tree</b>	<a href="#">down</a>
<b>Range</b>	1 to 86400
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**down-expires string**

<b>Description</b>	The remaining time until the hold-time down expires and the interface goes operationally down.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet hold-time down-expires string</a>
<b>Tree</b>	<a href="#">down-expires</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up number**

<b>Description</b>	<p>Holds link up events for the configured time.</p> <p>The hold-time up behavior is triggered with any event that tries to bring up the ethernet interface (interface admin-state enable, a reboot, etc). While the hold-time up is running, the transceiver laser will be enabled, however the higher layers will not be notified that the interface is operationally up until the timer expires.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet hold-time up number</a>
<b>Tree</b>	<a href="#">up</a>
<b>Range</b>	1 to 86400

<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**up-expires** *string*

<b>Description</b>	The remaining time until the hold-time up expires and the interface comes up.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet hold-time up-expires</a> <i>string</i>
<b>Tree</b>	<a href="#">up-expires</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**hw-mac-address** *string*

<b>Description</b>	The MAC address associated with the port
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet hw-mac-address</a> <i>string</i>
<b>Tree</b>	<a href="#">hw-mac-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**l2cp-transparency**

<b>Description</b>	Configuration and state of the Layer-2 Control Protocol transparency
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency</a>
<b>Tree</b>	<a href="#">l2cp-transparency</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**dot1x**

<b>Description</b>	Container for the configuration of 802.1x Port based Network Access Control.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency dot1x</a>
<b>Tree</b>	<a href="#">dot1x</a>



<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **oper-rule** *keyword*

<b>Description</b>	The operational state of the TCAM rule applied to ingress dot1x frames.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">l2cp-transparency</a> <a href="#">dot1x</a> <a href="#">oper-rule</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-rule</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• trap-to-cpu-untagged</li> <li>• drop-tagged-and-untagged</li> <li>• tunnel-tagged-and-untagged</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **tunnel** *boolean*

<b>Description</b>	Configures if incoming dot1x frames are tunneled. Dot1x frames are identified by MAC DA 01-80-c2-00-00-03 and Ethertype 0x888e.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">l2cp-transparency</a> <a href="#">dot1x</a> <a href="#">tunnel</a> <i>boolean</i>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **lACP**

<b>Description</b>	Container for L2CP transparency of the Link Aggregation Control Protocol
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">l2cp-transparency</a> <a href="#">lACP</a>
<b>Tree</b>	<a href="#">lACP</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**oper-rule** *keyword*

<b>Description</b>	The operational state of the TCAM rule applied to ingress LACP frames.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">l2cp-transparency</a> <a href="#">lACP</a> <a href="#">oper-rule</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-rule</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• trap-to-cpu-untagged</li> <li>• drop-tagged-and-untagged</li> <li>• tunnel-tagged-and-untagged</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**tunnel** *boolean*

<b>Description</b>	Configures if incoming LACP frames are tunneled. LACP frames are identified by MAC DA 01-80-c2-00-00-02, Ethertype 0x8809 and slow-protocol sub-type 0x01.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">l2cp-transparency</a> <a href="#">lACP</a> <a href="#">tunnel</a> <i>boolean</i>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**lldp**

<b>Description</b>	Container for L2CP transparency of the Link Layer Discovery Protocol
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">l2cp-transparency</a> <a href="#">lldp</a>
<b>Tree</b>	<a href="#">lldp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**oper-rule** *keyword*

<b>Description</b>	The operational state of the TCAM rule applied to ingress LLDP frames.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency lldp oper-rule</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-rule</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">trap-to-cpu-untagged</a></li> <li>• <a href="#">drop-tagged-and-untagged</a></li> <li>• <a href="#">tunnel-tagged-and-untagged</a></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### tunnel *boolean*

<b>Description</b>	Configures if incoming LLDP frames are tunneled. LLDP frames are identified by MAC DA 01-80-c2-00-00-00 and Ethertype 0x88cc.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency lldp tunnel</a> <i>boolean</i>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### ptp

<b>Description</b>	Container for the configuration of Precision Time Protocol Peer-Delay frames.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency ptp</a>
<b>Tree</b>	<a href="#">ptp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### oper-rule *keyword*

<b>Description</b>	The operational state of the TCAM rule applied to ingress ptp frames.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency ptp oper-rule</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-rule</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">trap-to-cpu-untagged</a></li> </ul>

	<ul style="list-style-type: none"> <li>• drop-tagged-and-untagged</li> <li>• tunnel-tagged-and-untagged</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### tunnel *boolean*

<b>Description</b>	Configures if incoming ptp frames are tunneled. ptp frames are identified by MAC DA 01-80-c2-00-00-0e and Ethertype 0x88f7.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency ptp tunnel</a> <i>boolean</i>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### tunnel-all-l2cp *boolean*

<b>Description</b>	Configures the tunneling of all the L2CP protocols. When set to true this command triggers the installation of an ingress TCAM rule with the highest priority (above all the individual L2CP tunnel rules) which allows the forwarding of any Layer-2 Control Protocol coming into the interface. All the L2CP frames identified by MAC DA = 01:80:c2:00:00:0x or MAC DA = 01:80:c2:00:00:2x, with 'x' being any hex value, are tunneled. When set to false, all L2CP frames without a specific L2CP tunnel rule are discarded.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet l2cp-transparency tunnel-all-l2cp</a> <i>boolean</i>
<b>Tree</b>	<a href="#">tunnel-all-l2cp</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### xstp

<b>Description</b>	Container for the configuration of all the Spanning Tree Protocols.
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It includes Spanning Tree Protocol (STP), Rapid RSTP (RSTP) and Multiple STP (MSTP)

**Context** [interface name](#) *string* [ethernet l2cp-transparency xstp](#)

**Tree** [xstp](#)

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **oper-rule** *keyword*

**Description** The operational state of the TCAM rule applied to ingress xSTP frames.

**Context** [interface name](#) *string* [ethernet l2cp-transparency xstp oper-rule](#) *keyword*

**Tree** [oper-rule](#)

**Options**

- [trap-to-cpu-untagged](#)
- [drop-tagged-and-untagged](#)
- [tunnel-tagged-and-untagged](#)

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **tunnel** *boolean*

**Description** Configures if incoming xSTP frames are tunneled.  
xSTP frames are identified by MAC DA 01-80-c2-00-00-00 and any Ethertype.

**Context** [interface name](#) *string* [ethernet l2cp-transparency xstp tunnel](#) *boolean*

**Tree** [tunnel](#)

**Default** false

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **lACP-port-priority** *number*

**Description** Configure the port priority for LACP. This value is used to determine which port should be activated with LACP fallback mode. Lower values are more preferred.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet lacp-port-priority</a> <i>number</i>
<b>Tree</b>	<a href="#">lacp-port-priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **mac-address** *string*

<b>Description</b>	MAC address of the interface  If not configured, this is set to the hw-mac-address, which is populated depending on interface type:  When deleted, will revert back to the value of hw-mac-address.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet mac-address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **physical-medium** *keyword*

<b>Description</b>	Indicates the PHY supported by the RJ45 port.  If the port is supported by a SFP, QSFP+, QSFP28 or QSFP-DD transceiver no value is populated in this leaf.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet physical-medium</a> <i>keyword</i>
<b>Tree</b>	<a href="#">physical-medium</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• 1000BASE-T</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **port-speed** *keyword*

<b>Description</b>	The speed of the port or channel  The default speed of a port (when there is no configured value and auto-negotiation is disabled or unsupported) depends on the platform and port/connector number as follows:  mgmt0 and mgmt0-standby ports: 1G J2 IMM ports 1-32: 100G J2 IMM ports 33-36: 100G 7220-D1 ports 1-48: 1G 7220-D1 ports 49-52: 10G 7220-D2/D2L ports 1-48: 25G 7220-D2/D2L ports 49-56: 100G 7220-D2L ports 57-
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58: 10G 7220-D3 ports 1-2: 10G 7220-D3 ethernet-1/[3-34]: 100G 7220-D3 ethernet-1/[3-33]/n: 25G 7220-D3L ethernet-1/[1-32]: 100G 7220-D3L ethernet-1/[1-31]/n: 25G 7220-D3L ports 33-34: 10G 7220-D4 ports 1-28: 100G 7220-D4 ports 29-36: 400G 7220-D5 ports 1-32: 400G 7220-D5 ports 33-38: 10G 7220-H2 ports 1-128: 100G 7220-H3 ports 1-2: 10G 7220-H3 ports 3-34: 400G 7220-H4 ports 1-64: 400G 7220-H4 ports 65-66: 10G

Supported speeds: mgmt0 and mgmt0-standby ports: 1G J2 IMM ports 1-32: 40G, 100G [note1] J2 IMM ports 33-36: 40G, 100G, 400G 7220-D1 ports 1-48: 10M, 100M, 1G 7220-D1 ports 49-52: 10G 7220-D2/D2L ports 1-48: 1G, 10G, 25G [note2] 7220-D2 ports 49-56: 40G, 100G 7220-D2L ports 49-56: 10G, 25G, 40G, 100G 7220-D2L ports 57-58: 10G 7220-D3 ports 1-2: 10G 7220-D3 ethernet-1/[3-34]: 40G, 50G, 100G 7220-D3 ethernet-1/[3-33]/n: 10G, 25G 7220-D3L ethernet-1/[1-32]: 10G, 25G, 40G, 50G, 100G 7220-D3L ethernet-1/[1-31]/n: 10G, 25G 7220-D3L ports 33-34: 10G 7220-D4 ports 1-28: 40G, 100G 7220-D4 ports 29-36: 40G, 100G, 400G 7220-D5 ports 1-32: 40G, 100G, 400G 7220-D5 ports 33-38: 10G 7220-H2 ports 1-128: 100G 7220-H3 ports 1-2: 10G 7220-H3 ports 3-34: 40G, 100G, 400G 7220-H4 ports 1-64: 40G, 100G, 400G 7220-H4 ports 65-66: 10G

[note1] Ports 9-12 cannot operate at different port speeds (some at 40G and others at 100G). The required speed of ports 9-12 is based on the port-speed of the lowest-numbered configured port in this block; if any higher-numbered port in the block is configured with a different port speed that port will not come up.

[note2] On 7220-D2: if one port in each consecutive group of 4 ports (1-4, 5-8, .. , 45-48) is 25G the other 3 ports must also be 25G; if one port in each consecutive group of 4 ports (1-4, 5-8, .. , 45-48) is 1G or 10G the other 3 ports must also be 1G or 10G. On 7220-D2L: if one port in each consecutive group of 12 ports (1-12, 13-24, 25-36, 37-48) is 25G the other 11 ports must also be 25G; if one port in each consecutive group of 12 ports (1-12, 13-24, 25-36, 37-48) is 1G or 10G the other 11 ports must also be 1G or 10G.

7250 IXR details: If the interface corresponds to a connector that has no installed transceiver then the value is accepted without any checking or restriction, and info from state will display the configured value. Otherwise if the configured port-speed is NOT supported by the installed transceiver the port is forced operationally down.

#### Context

`interface name string ethernet port-speed keyword`

#### Tree

`port-speed`

#### Options

- 10M
- 100M
- 1G
- 10G
- 25G
- 40G
- 50G
- 100G

	<ul style="list-style-type: none"> <li>• 200G</li> <li>• 400G</li> <li>• 1T</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ptp-asymmetry** *number*

<b>Description</b>	This command configures the PTP asymmetry delay on the Ethernet port. This command is used to correct known asymmetry as part of time of day or phase recovery using PTP packets on both local and downstream PTP clocks.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">ptp-asymmetry</a> <i>number</i>
<b>Tree</b>	<a href="#">ptp-asymmetry</a>
<b>Units</b>	nanoseconds
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

### **reload-delay** *number*

<b>Description</b>	Configure reload-delay timer for Ethernet interfaces. The reload-delay timer starts when the associated XDP interface state is learned. While the timer is running, the interface transceiver laser is disabled to avoid attracting traffic from the connected device at the other end of the interface. The reload-delay timer should be used in multi-homing interfaces and be set to a value long enough to allow the system to recover all the network protocols upon reboot, before start attracting traffic from the multi-homed device.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet</a> <a href="#">reload-delay</a> <i>number</i>
<b>Tree</b>	<a href="#">reload-delay</a>
<b>Range</b>	1 to 86400
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2



**reload-delay-expires** *string*

<b>Description</b>	The remaining time until the reload-delay expires and the interface can go operationally up.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet reload-delay-expires</a> <i>string</i>
<b>Tree</b>	<a href="#">reload-delay-expires</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**standby-signaling** *keyword*

<b>Description</b>	Indicates the standby-signaling used in the interface. An application using a port-based redundancy mechanism will trigger the standby signaling on the ethernet interface if the interface is selected as standby.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet standby-signaling</a> <i>keyword</i>
<b>Tree</b>	<a href="#">standby-signaling</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• power-off</li> <li>• lacp</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-1024b-to-1518b-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are 1024-1518 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-1024b-to-1518b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-1024b-to-1518b-frames</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-128b-to-255b-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are 128-255 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-128b-to-255b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-128b-to-255b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-1519b-or-longer-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are 1519 bytes or longer
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-1519b-or-longer-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-1519b-or-longer-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-256b-to-511b-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are 256-511 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-256b-to-511b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-256b-to-511b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-512b-to-1023b-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are 512-1023 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-512b-to-1023b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-512b-to-1023b-frames</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-64b-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are exactly 64 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-64b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-64b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-65b-to-127b-frames** *number*

<b>Description</b>	Number of received Ethernet frames that are 65-127 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-65b-to-127b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-65b-to-127b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-crc-error-frames** *number*

<b>Description</b>	Number of receive error events due to FCS/CRC check failure.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-crc-error-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-crc-error-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-fragment-frames** *number*

<b>Description</b>	Number of fragment frames received on the interface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-fragment-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-fragment-frames</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-jabber-frames** *number*

<b>Description</b>	Number of jabber frames received on the interface. Jabber frames are typically defined as oversize frames which also have a bad CRC.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-jabber-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-jabber-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-mac-pause-frames** *number*

<b>Description</b>	Number of MAC layer PAUSE frames received on the interface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-mac-pause-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-mac-pause-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-oversize-frames** *number*

<b>Description</b>	Number of oversize frames received on the interface (i.e. frames that exceed the operational port MTU)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics in-oversize-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">in-oversize-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Timestamp of the last time the MAC counters were cleared.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-1024b-to-1518b-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are 1024-1518 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-1024b-to-1518b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-1024b-to-1518b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-128b-to-255b-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are 128-255 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-128b-to-255b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-128b-to-255b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-1519b-or-longer-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are 1519 bytes or longer
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-1519b-or-longer-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-1519b-or-longer-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-256b-to-511b-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are 256-511 bytes in length
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-256b-to-511b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-256b-to-511b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-512b-to-1023b-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are 512-1023 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-512b-to-1023b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-512b-to-1023b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-64b-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are exactly 64 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-64b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-64b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-65b-to-127b-frames** *number*

<b>Description</b>	Number of transmitted Ethernet frames that are 65-127 bytes in length
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-65b-to-127b-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-65b-to-127b-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-mac-pause-frames** *number*

<b>Description</b>	Number of MAC layer PAUSE frames sent on the interface.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics out-mac-pause-frames</a> <i>number</i>
<b>Tree</b>	<a href="#">out-mac-pause-frames</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## storm-control

<b>Description</b>	Enable the storm-control context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control</a>
<b>Tree</b>	<a href="#">storm-control</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## broadcast-rate *number*

<b>Description</b>	The maximum rate allowed for ingress broadcast frames on the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control broadcast-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">broadcast-rate</a>
<b>Range</b>	0 to 100000000
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## multicast-rate *number*

<b>Description</b>	The maximum rate allowed for ingress multicast frames on the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control multicast-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">multicast-rate</a>
<b>Range</b>	0 to 100000000
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operational-broadcast-rate** *number*

<b>Description</b>	The operational maximum rate for ingress broadcast frames programmed on the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control operational-broadcast-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">operational-broadcast-rate</a>
<b>Units</b>	kbps
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operational-multicast-rate** *number*

<b>Description</b>	The operational maximum rate for ingress multicast frames programmed on the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control operational-multicast-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">operational-multicast-rate</a>
<b>Units</b>	kbps
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**operational-unknown-unicast-rate** *number*

<b>Description</b>	The operational maximum rate for ingress unknown unicast frames programmed on the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control operational-unknown-unicast-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">operational-unknown-unicast-rate</a>
<b>Units</b>	kbps
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2



**units** *keyword*

<b>Description</b>	Units of storm-control policer in kbps or percentage of the interface bandwidth
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control units</a> <i>keyword</i>
<b>Tree</b>	<a href="#">units</a>
<b>Default</b>	percentage
<b>Options</b>	<ul style="list-style-type: none"> <li>• kbps</li> <li>• percentage</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**unknown-unicast-rate** *number*

<b>Description</b>	The maximum rate allowed for ingress unknown unicast frames on the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet storm-control unknown-unicast-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">unknown-unicast-rate</a>
<b>Range</b>	0 to 100000000
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ifindex** *number*

<b>Description</b>	System-wide persistent unique ifIndex assigned to the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ifindex</a> <i>number</i>
<b>Tree</b>	<a href="#">ifindex</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**lag**

<b>Description</b>	Container for options related to LAG
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag</a>
<b>Tree</b>	<a href="#">lag</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## lACP

<b>Description</b>	LACP parameters for the associated LAG
<b>Context</b>	<a href="#">interface name</a> <i>string lag lACP</i>
<b>Tree</b>	<a href="#">lACP</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## admin-key *number*

<b>Description</b>	Configure the LACP admin-key to be advertised by the local system. If this value is not specified a value starting from 32768 is automatically assigned by the system.
<b>Context</b>	<a href="#">interface name</a> <i>string lag lACP admin-key number</i>
<b>Tree</b>	<a href="#">admin-key</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## interval *keyword*

<b>Description</b>	Set the period between LACP messages -- uses the lACP-period-type enumeration.
<b>Context</b>	<a href="#">interface name</a> <i>string lag lACP interval keyword</i>
<b>Tree</b>	<a href="#">interval</a>
<b>Default</b>	SLOW
<b>Options</b>	<ul style="list-style-type: none"> <li>FAST Send LACP packets every second</li> <li>SLOW</li> </ul>

Send LACP packets every 30 seconds

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### lACP-mode *keyword*

<b>Description</b>	ACTIVE is to initiate the transmission of LACP packets. PASSIVE is to wait for peer to initiate the transmission of LACP packets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag</a> <a href="#">lACP</a> <a href="#">lACP-mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">lACP-mode</a>
<b>Default</b>	ACTIVE
<b>Options</b>	<ul style="list-style-type: none"> <li>ACTIVE Interface is an active member, i.e., will detect and maintain aggregates</li> <li>PASSIVE Interface is a passive member, i.e., it participates with an active partner</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### system-id-mac *string*

<b>Description</b>	The MAC address portion of the node's System ID. This is combined with the system priority to construct the 8-octet system-id. If not configured, the system-ID configured at the system/ level is used.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag</a> <a href="#">lACP</a> <a href="#">system-id-mac</a> <i>string</i>
<b>Tree</b>	<a href="#">system-id-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### system-priority *number*

<b>Description</b>	System priority used by the node on this LAG interface. Lower value is higher priority for determining which node is the controlling system. If not configured, the system-priority configured at the system/ level is used.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag lacp system-priority</a> <i>number</i>
<b>Tree</b>	<a href="#">system-priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **lacp-fallback-mode** *keyword*

<b>Description</b>	Specifies lacp-fallback mode if enabled
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag lacp-fallback-mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">lacp-fallback-mode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>static Set the LACP-fallback mode as static</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **lacp-fallback-timeout** *number*

<b>Description</b>	Specifies the LACP-fallback timeout interval in seconds
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag lacp-fallback-timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">lacp-fallback-timeout</a>
<b>Range</b>	4 to 3600
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **lag-speed** *number*

<b>Description</b>	reports current aggregate bandwidth speed of the associated LAG
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag lag-speed</a> <i>number</i>
<b>Tree</b>	<a href="#">lag-speed</a>
<b>Units</b>	Mbps
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### lag-type keyword

**Description** Sets the type of LAG, i.e., how it is configured / maintained

**Context** [interface name](#) *string* [lag](#) [lag-type](#) *keyword*

**Tree** [lag-type](#)

**Default** static

**Options**

- lacp  
LAG managed by LACP
- static  
Statically configured bundle / LAG

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### member name reference

**Description** Reports the list of interfaces associated with the LAG instance

**Context** [interface name](#) *string* [lag](#) [member name](#) *reference*

**Tree** [member](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### name reference

**Description** Enter the name context

**Context** [interface name](#) *string* [lag](#) [member name](#) *reference*

**Reference** [interface name](#) *string*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**lACP**

<b>Description</b>	Operational status data for the member interfaces
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP</a>
<b>Tree</b>	<a href="#">lACP</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**activity keyword**

<b>Description</b>	Indicates participant is active or passive
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP activity keyword</a>
<b>Tree</b>	<a href="#">activity</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>ACTIVE Interface is an active member, i.e., will detect and maintain aggregates</li> <li>PASSIVE Interface is a passive member, i.e., it participates with an active partner</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**aggregatable boolean**

<b>Description</b>	A true value indicates that the participant will allow the link to be used as part of the aggregate. A false value indicates the link should be used as an individual link
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP aggregatable boolean</a>
<b>Tree</b>	<a href="#">aggregatable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**collecting** *boolean*

<b>Description</b>	If true, the participant is collecting incoming frames on the link, otherwise false
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP collecting</a> <i>boolean</i>
<b>Tree</b>	<a href="#">collecting</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**distributing** *boolean*

<b>Description</b>	When true, the participant is distributing outgoing frames; when false, distribution is disabled
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP distributing</a> <i>boolean</i>
<b>Tree</b>	<a href="#">distributing</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**lACP-port-priority** *number*

<b>Description</b>	Configure the port priority for LACP. This value is used to determine which port should be activated with LACP fallback mode. Lower values are more preferred.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP lACP-port-priority</a> <i>number</i>
<b>Tree</b>	<a href="#">lACP-port-priority</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**oper-key** *number*

<b>Description</b>	Current operational value of the key for the aggregate interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP oper-key</a> <i>number</i>
<b>Tree</b>	<a href="#">oper-key</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**partner-id** *string*

<b>Description</b>	MAC address representing the protocol partner's interface system ID
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP partner-id</a> <i>string</i>
<b>Tree</b>	<a href="#">partner-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**partner-key** *number*

<b>Description</b>	Operational value of the protocol partner's key
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP partner-key</a> <i>number</i>
<b>Tree</b>	<a href="#">partner-key</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**partner-port-num** *number*

<b>Description</b>	Port number of the partner (remote) port for this member port
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP partner-port-num</a> <i>number</i>
<b>Tree</b>	<a href="#">partner-port-num</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**port-num** *number*

<b>Description</b>	Port number of the local (actor) aggregation member
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP port-num</a> <i>number</i>
<b>Tree</b>	<a href="#">port-num</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## statistics

<b>Description</b>	LACP protocol counters
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## lACP-errors *number*

<b>Description</b>	Number of LACPDU illegal packet errors
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP statistics lACP-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">lACP-errors</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## lACP-in-pkts *number*

<b>Description</b>	Number of LACPDU received
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lACP statistics lACP-in-pkts</a> <i>number</i>
<b>Tree</b>	<a href="#">lACP-in-pkts</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### lacp-out-pkts *number*

**Description** Number of LACPDU transmitted

**Context** [interface name](#) *string* [lag member name](#) *reference* [lacp statistics lacp-out-pkts number](#)

**Tree** [lacp-out-pkts](#)

**Default** 0

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### lacp-rx-errors *number*

**Description** Number of LACPDU receive packet errors

**Context** [interface name](#) *string* [lag member name](#) *reference* [lacp statistics lacp-rx-errors number](#)

**Tree** [lacp-rx-errors](#)

**Default** 0

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### lacp-tx-errors *number*

**Description** Number of LACPDU transmit packet errors

**Context** [interface name](#) *string* [lag member name](#) *reference* [lacp statistics lacp-tx-errors number](#)

**Tree** [lacp-tx-errors](#)

**Default** 0

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**lacp-unknown-errors** *number*

<b>Description</b>	Number of LACPDU unknown packet errors
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lacp statistics lacp-unknown-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">lacp-unknown-errors</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**synchronization** *keyword*

<b>Description</b>	Indicates whether the participant is in-sync or out-of-sync
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lacp synchronization keyword</a>
<b>Tree</b>	<a href="#">synchronization</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• IN_SYNC Participant is in sync with the system id and key transmitted</li> <li>• OUT_SYNC Participant is not in sync with the system id and key transmitted</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**system-id** *string*

<b>Description</b>	MAC address that defines the local system ID for the aggregate interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lacp system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">system-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**timeout** *keyword*

<b>Description</b>	The timeout type (short or long) used by the participant
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">lacp timeout</a> <i>keyword</i>
<b>Tree</b>	<a href="#">timeout</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>LONG Participant wishes to use long timeouts to detect status of the aggregate, i.e., will expect less frequent transmissions. Long timeout is 90 seconds.</li> <li>SHORT Participant wishes to use short timeouts, i.e., expects frequent transmissions to aggressively detect status changes. Short timeout is 3 seconds.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-change** *string*

<b>Description</b>	The date and time of the most recent change to the LAG member-link state
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">last-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**microbfd-enabled** *boolean*

<b>Description</b>	Indicates if microBFD is currently used in the determination of the member-link oper-status
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">microbfd-enabled</a> <i>boolean</i>
<b>Tree</b>	<a href="#">microbfd-enabled</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**oper-down-reason** *keyword*

<b>Description</b>	Reason for operational down state for the associated LAG
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">oper-down-reason keyword</a>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• port-disabled</li> <li>• port-oper-disabled</li> <li>• lag-admin-disabled</li> <li>• lacp-down</li> <li>• microBFD-down</li> <li>• lag-min-link-threshold</li> <li>• lag-speed-mismatch</li> <li>• other</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**oper-state** *keyword*

<b>Description</b>	Operational state for the associated LAG
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">lag member name</a> <i>reference</i> <a href="#">oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed</li> </ul>

- Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**member-speed** *keyword***Description**

Specifies the link speed of allowed member-links

**Context**[interface name](#) *string* [lag](#) [member-speed](#) *keyword***Tree**[member-speed](#)**Options**

- 10M  
Indicates the the LAG member-links must be 10M to be active
- 100M  
Indicates the the LAG member-links must be 100M to be active
- 1G  
Indicates the the LAG member-links must be 1G to be active
- 10G  
Indicates the the LAG member-links must be 10G to be active
- 25G

- Indicates the the LAG member-links must be 25G to be active
- 40G
  - Indicates the the LAG member-links must be 40G to be active
- 50G
  - Indicates the the LAG member-links must be 50G to be active
- 100G
  - Indicates the the LAG member-links must be 100G to be active
- 400G
  - Indicates the the LAG member-links must be 400G to be active

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**min-links** *number***Description**

Specifies the minimum number of member interfaces that must be active for the aggregate interface to be available

**Context**

[interface name](#) *string* [lag](#) *min-links* *number*

**Tree**

[min-links](#)

**Range**

1 to 64

**Default**

1

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-change** *string***Description**

The date and time of the most recent change to the interface state

**Context**

[interface name](#) *string* [last-change](#) *string*

**Tree**

[last-change](#)

**String Length**

20 to 32

**Configurable**

False

**Platforms**

Supported on all platforms

**loopback-mode** *boolean*

<b>Description</b>	When loopback-mode is set to true the port loops back packets that come in via the port
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">loopback-mode</a> <i>boolean</i>
<b>Tree</b>	<a href="#">loopback-mode</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mtu** *number*

<b>Description</b>	<p>Port MTU in bytes including ethernet overhead but excluding 4-bytes FCS. If a transmitted packet exceeds this size it is dropped.</p> <p>The default value for ethernet-x interfaces is taken from /system/mtu/default-port-mtu. For the mgmt0 and mgmt0-standby interfaces the default is 1514 bytes, but the value can be changed for each interface individually. Port MTU is not configurable for loopback interfaces.</p> <p>The max mtu for the mgmt0 and mgmt0-standby interfaces is 9216.</p> <p>The 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D3, 7220 IXR-H2, and 7220 IXR-H3 systems support a maximum port MTU of 9412 bytes and minimum of 1500 bytes.</p> <p>All other systems support a maximum port MTU of 9500 and minimum of 1500 bytes.</p> <p>Each 7250 IXR IMM supports a maximum of 8 different port MTU values. 7220 IXR systems do not have any limit on the maximum number of different port MTU values.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">mtu</a>
<b>Range</b>	1450 to 9500
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-down-reason** *keyword*

<b>Description</b>	The first (and possibly only) reason for the port being operationally down
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>port-admin-disabled</li> </ul>



- mda-admin-disabled
- transceiver-oper-down
- loopback
- port-not-present
- mda-not-present
- phy-initializing
- lower-layer-down
- auto-negotiation-mismatch
- port-mtu-resource-exceeded
- unsupported-speed
- unsupported-fec
- other
- fabric-availability
- no-active-links
- min-link-threshold
- port-9-12-speed-mismatch
- lag-resource-exceeded
- lag-member-resource-exceeded
- standby-signaling
- interface-hold-time-up-active
- interface-reload-timer-active
- connector-down
- event-handler

**Configurable**

False

**Platforms**

Supported on all platforms

### **oper-state** *keyword*

**Description**

The operational state of the interface

**Context**

[interface name](#) *string* [oper-state](#) *keyword*

**Tree**

[oper-state](#)

**Options**

- up
- down

**Configurable**

False

**Platforms**

Supported on all platforms

**p4rt**

<b>Description</b>	Top-level container for P4Runtime interface configuration and state
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">p4rt</a>
<b>Tree</b>	<a href="#">p4rt</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**id number**

<b>Description</b>	<p>The numeric identifier used by the controller to address the interface</p> <p>This ID is the interface ifIndex by default, or is assigned by an external-to-the-device entity (e.g., an SDN management system) to establish an externally deterministic numeric reference for the interface.</p> <p>The programming entity must ensure that the ID is unique within the required context.</p> <p>Note that this identifier is used only when a numeric reference to the interface is required, it does not replace the unique name assigned to the interface.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">p4rt</a> <a href="#">id</a> <i>number</i>
<b>Tree</b>	<a href="#">id</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**parent-id number**

<b>Description</b>	<p>The numeric ID used by the controller to address the ASIC this interface resides on</p> <p>This is the ID configured at /platform/linecard/forwarding-complex/p4rt/id.</p> <p>This ID may be referred to as a 'device', 'node' or 'target' by the P4RT specification.</p> <p>Each switching ASIC (i.e., node) is addressed by the external entity based on its numeric identifier.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">p4rt</a> <a href="#">parent-id</a> <i>number</i>
<b>Tree</b>	<a href="#">parent-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**phy-group-members** *string*

<b>Description</b>	The group of interfaces sharing a phy with this interface On the 7220 IXR-D2 and 7220 IXR-D2L platforms this group of interfaces must be set to the same speed, either 1/10G or 25G.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">phy-group-members</a> <i>string</i>
<b>Tree</b>	<a href="#">phy-group-members</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D2, 7220 IXR-D2L

**qos**

<b>Description</b>	Enable the qos context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos</a>
<b>Tree</b>	<a href="#">qos</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**output**

<b>Description</b>	Container for QoS configuration that applies to outbound traffic through the port or LAG
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos</a> <a href="#">output</a>
<b>Tree</b>	<a href="#">output</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**queue** [queue-name](#) (*reference* | *keyword*)

<b>Description</b>	List of queues
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos</a> <a href="#">output</a> <a href="#">queue</a> <a href="#">queue-name</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">queue</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**queue-name** (*reference* | *keyword*)

<b>Description</b>	The queue name
<b>Context</b>	<a href="#">interface name</a> <i>string qos output queue queue-name</i> ( <i>reference</i>   <i>keyword</i> )
<b>Options</b>	<ul style="list-style-type: none"><li>• unicast-0</li><li>• unicast-1</li><li>• unicast-2</li><li>• unicast-3</li><li>• unicast-4</li><li>• unicast-5</li><li>• unicast-6</li><li>• unicast-7</li><li>• multicast-0</li><li>• multicast-1</li><li>• multicast-2</li><li>• multicast-3</li><li>• multicast-4</li><li>• multicast-5</li><li>• multicast-6</li><li>• multicast-7</li><li>• queue-0</li><li>• queue-1</li><li>• queue-2</li><li>• queue-3</li><li>• queue-4</li><li>• queue-5</li><li>• queue-6</li><li>• queue-7</li><li>• queue-8</li><li>• queue-9</li><li>• queue-10</li><li>• queue-11</li><li>• queue-12</li><li>• queue-13</li><li>• queue-14</li><li>• queue-15</li></ul>

<b>Reference</b>	<a href="#">qos queues queue name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

## active-queue-management

<b>Description</b>	Enter the active-queue-management context
<b>Context</b>	<a href="#">interface name string qos output queue queue-name (reference   keyword)</a> <a href="#">active-queue-management</a>
<b>Tree</b>	<a href="#">active-queue-management</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## ecn-slope [ecn-drop-probability keyword](#)

<b>Description</b>	List of ECN slopes.
<b>Context</b>	<a href="#">interface name string qos output queue queue-name (reference   keyword)</a> <a href="#">active-queue-management ecn-slope ecn-drop-probability keyword</a>
<b>Tree</b>	<a href="#">ecn-slope</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## ecn-drop-probability [keyword](#)

<b>Description</b>	The drop probability to which the ECN slope applies.
<b>Context</b>	<a href="#">interface name string qos output queue queue-name (reference   keyword)</a> <a href="#">active-queue-management ecn-slope ecn-drop-probability keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> <li>• all</li> </ul>

All traffic, consisting of traffic marked low, medium and high drop-probability.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **max-probability** *number*

<b>Description</b>	The maximum probability of marking a packet (at or above the max-threshold). On 7250 IXR-6/10 there can be a significant difference between the configured value and the operational value.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <a href="#">max-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">max-probability</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **max-threshold-bytes** *number*

<b>Description</b>	The queue depth in bytes that corresponds to the ECN maximum threshold parameter.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <a href="#">max-threshold-bytes</a> <i>number</i>
<b>Tree</b>	<a href="#">max-threshold-bytes</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **min-threshold-bytes** *number*

<b>Description</b>	The queue depth in bytes that corresponds to the ECN minimum threshold parameter.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <a href="#">min-threshold-bytes</a> <i>number</i>
<b>Tree</b>	<a href="#">min-threshold-bytes</a>

<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### slope-enabled *boolean*

<b>Description</b>	<p>Reads true if the slope is enabled.</p> <p>A disabled slope has min-threshold-bytes = max-threshold-bytes = max-probability = 0</p>
<b>Context</b>	<p><a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> (<i>reference</i>   <i>keyword</i>) <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <a href="#">slope-enabled</a> <i>boolean</i></p>
<b>Tree</b>	<a href="#">slope-enabled</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### wred-slope [traffic-type](#) *keyword* [drop-probability](#) *keyword*

<b>Description</b>	List of WRED slopes.
<b>Context</b>	<p><a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> (<i>reference</i>   <i>keyword</i>) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i></p>
<b>Tree</b>	<a href="#">wred-slope</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### traffic-type *keyword*

<b>Description</b>	The traffic type to which the WRED slope applies.
<b>Context</b>	<p><a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> (<i>reference</i>   <i>keyword</i>) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i></p>
<b>Options</b>	<ul style="list-style-type: none"> <li>tcp           <p>Refers to IPv4/IPv6 packets with a protocol/next-header indicating a value of 6.</p> </li> <li>non-tcp           <p>Refers to all packets that are not IPv4/IPv6 packets with a protocol/next-header indicating a value of 6.</p> </li> </ul>

	<ul style="list-style-type: none"> <li>all</li> </ul> <p>Refers to all traffic, whether it is TCP or non-TCP.</p>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### drop-probability *keyword*

<b>Description</b>	The drop probability to which the WRED slope applies.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>low</li> </ul> <p>Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</p> <ul style="list-style-type: none"> <li>medium</li> </ul> <p>Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</p> <ul style="list-style-type: none"> <li>high</li> </ul> <p>Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</p>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### max-probability *number*

<b>Description</b>	<p>The maximum probability of dropping a packet (at or above the max-threshold).</p> <p>On 7250 IXR-6/10 there can be a significant difference between the configured value and the operational value.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">max-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">max-probability</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**max-threshold-bytes** *number*

<b>Description</b>	The queue depth in bytes that corresponds to the WRED maximum threshold parameter.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">max-threshold-bytes</a> <i>number</i>
<b>Tree</b>	<a href="#">max-threshold-bytes</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**min-threshold-bytes** *number*

<b>Description</b>	The queue depth in bytes that corresponds to the WRED minimum threshold parameter.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">min-threshold-bytes</a> <i>number</i>
<b>Tree</b>	<a href="#">min-threshold-bytes</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**slope-enabled** *boolean*

<b>Description</b>	Reads true if the slope is enabled. A disabled slope has min-threshold-bytes = max-threshold-bytes = max-probability = 0
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">slope-enabled</a> <i>boolean</i>
<b>Tree</b>	<a href="#">slope-enabled</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**forwarding-class** *string*

<b>Description</b>	The list of forwarding classes that map to this queue.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">forwarding-class</a> <i>string</i>
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

## queue-depth

<b>Description</b>	Enter the queue-depth context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">queue-depth</a>
<b>Tree</b>	<a href="#">queue-depth</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

## high-threshold-bytes *number*

<b>Description</b>	The operational hardware value of the high threshold in bytes.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">queue-depth high-threshold-bytes</a> <i>number</i>
<b>Tree</b>	<a href="#">high-threshold-bytes</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D4/D5

## last-high-threshold-time *string*

<b>Description</b>	The last time the queue depth exceeded the high-threshold in a rising direction.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">queue-depth last-high-threshold-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-high-threshold-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D4/D5

**maximum-burst-size** *number*

<b>Description</b>	Maximum queue depth in bytes.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">queue-depth maximum-burst-size</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-burst-size</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**scheduling**

<b>Description</b>	Container for queue scheduling parameters
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">scheduling</a>
<b>Tree</b>	<a href="#">scheduling</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**peak-rate-bps** *number*

<b>Description</b>	The actual/operational peak rate in bits per second.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">scheduling peak-rate-bps</a> <i>number</i>
<b>Tree</b>	<a href="#">peak-rate-bps</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**peak-rate-percent** *number*

<b>Description</b>	The maximum percentage of port bandwidth that is available to the traffic in this queue during the PIR scheduling loop. The default is 100.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">scheduling peak-rate-percent</a> <i>number</i>
<b>Tree</b>	<a href="#">peak-rate-percent</a>
<b>Range</b>	1 to 100
<b>Default</b>	100
<b>Configurable</b>	True

**Platforms** Supported on all platforms except 7220 IXR-D1

### **scheduler-node** *reference*

**Description** The scheduler node to which the queue is connected. The mappings are fixed and not user-configurable.  
 J2: unicast-0..unicast-7 -> node 1 multicast-0..multicast-7 -> node 0  
 TD3 (D2/D3/D5): unicast-x -> node x multicast-x -> node x  
 TH3: unicast-0 -> node 1 unicast-1 -> node 2 unicast-2 -> node 4 unicast-3 -> node 5 unicast-4 -> node 7 unicast-5 -> node 8 unicast-6 -> node 10 unicast-7 -> node 11 multicast-0 -> node 0 multicast-1 -> node 3 multicast-2 -> node 6 multicast-3 -> node 9

**Context** [interface name](#) *string* [qos output queue queue-name](#) (*reference* | *keyword*)  
[scheduling scheduler-node](#) *reference*

**Tree** [scheduler-node](#)

**Reference** [interface name](#) *string* [qos output scheduler tier level number node node-number](#) *number*

**Configurable** False

**Platforms** Supported on all platforms

### **strict-priority** *boolean*

**Description** When set to true the queue is serviced as a strict priority queue, regardless of whether a weight is configured or its value. When set to false the queue is serviced using WRR, even if the queue does not have a configured weight; in this case the default weight value of 1 is used.  
 For unicast queues the implicit default value is true

**Context** [interface name](#) *string* [qos output queue queue-name](#) (*reference* | *keyword*)  
[scheduling strict-priority](#) *boolean*

**Tree** [strict-priority](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **weight** *number*

**Description** Configures the relative weight of a DWRR queue.  
 For unicast queues the implicit default value is 1

**Context** [interface name](#) *string* [qos output queue queue-name](#) (*reference* | *keyword*)  
[scheduling weight](#) *number*

<b>Tree</b>	<a href="#">weight</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### template *reference*

<b>Description</b>	The name of a queue-template to apply to the queue. If a queue has no queue-template, the default queue-template is applied. The user cannot modify the default queue-template.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">template reference</a>
<b>Tree</b>	<a href="#">template</a>
<b>Reference</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

### voq-template *reference*

<b>Description</b>	The name of a queue-template to apply to the set of associated VOQs. If a queue has no voq-template, the default queue-template is applied
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">voq-template reference</a>
<b>Tree</b>	<a href="#">voq-template</a>
<b>Reference</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### queue-statistics

<b>Description</b>	Enter the queue-statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics</a>
<b>Tree</b>	<a href="#">queue-statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**queue** [queue-name](#) (*reference* | *keyword*)

<b>Description</b>	List of queues.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">queue</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**queue-name** (*reference* | *keyword*)

<b>Description</b>	The queue name
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> )
<b>Options</b>	<ul style="list-style-type: none"> <li>• unicast-0</li> <li>• unicast-1</li> <li>• unicast-2</li> <li>• unicast-3</li> <li>• unicast-4</li> <li>• unicast-5</li> <li>• unicast-6</li> <li>• unicast-7</li> <li>• multicast-0</li> <li>• multicast-1</li> <li>• multicast-2</li> <li>• multicast-3</li> <li>• multicast-4</li> <li>• multicast-5</li> <li>• multicast-6</li> <li>• multicast-7</li> <li>• queue-0</li> <li>• queue-1</li> <li>• queue-2</li> <li>• queue-3</li> <li>• queue-4</li> <li>• queue-5</li> </ul>

- queue-6
- queue-7
- queue-8
- queue-9
- queue-10
- queue-11
- queue-12
- queue-13
- queue-14
- queue-15

<b>Reference</b>	<a href="#">qos queues queue name string</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **final-dropped-octets** *number*

<b>Description</b>	Number of octets dropped by the queue. On 7250-IXR (Jericho2-based) systems unicast packet drops related to egress port congestion should show up in the VOQ stats and not in this statistic.
<b>Context</b>	<a href="#">interface name string qos output queue-statistics queue queue-name (reference   keyword) final-dropped-octets number</a>
<b>Tree</b>	<a href="#">final-dropped-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **final-dropped-packets** *number*

<b>Description</b>	Number of packets dropped by the queue. On 7250-IXR (Jericho2-based) systems unicast packet drops related to egress port congestion should show up in the VOQ stats and not in this statistic.
<b>Context</b>	<a href="#">interface name string qos output queue-statistics queue queue-name (reference   keyword) final-dropped-packets number</a>
<b>Tree</b>	<a href="#">final-dropped-packets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-clear** *string*

<b>Description</b>	Timestamp of the last time the statistics associated with this queue were cleared
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **transmitted-octets** *number*

<b>Description</b>	Number of octets transmitted by the queue.  Note that on IXR-6/10 this count is based on the ingress packet size including received MPLS labels plus the Ethernet encapsulation that was present at ingress; popped and pushed MPLS labels are not accounted for and neither is the difference, if any, between ingress and egress Ethernet encapsulation size.  Note that on IXR-6e/10e this count is based on the ingress packet size minus terminated/popped MPLS labels minus the Ethernet encapsulation; pushed MPLS labels are not accounted for and neither is the egress Ethernet encapsulation.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">transmitted-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">transmitted-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **transmitted-packets** *number*

<b>Description</b>	Number of packets transmitted by the queue, including transit traffic and locally originated traffic.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">transmitted-packets</a> <i>number</i>



<b>Tree</b>	<a href="#">transmitted-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### virtual-output-queue *slot number*

<b>Description</b>	List of virtual output queues that can send traffic to this egress queue. The list always has one entry for each IMM slot in the chassis, even if one or more slots are empty.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number</a>
<b>Tree</b>	<a href="#">virtual-output-queue</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### slot *number*

<b>Description</b>	The slot identifier for the virtual output queue.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number</a>
<b>Range</b>	1 to 8
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### dropped-octets

<b>Description</b>	Enter the dropped-octets context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-octets</a>
<b>Tree</b>	<a href="#">dropped-octets</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### high-drop-probability *number*

<b>Description</b>	The number of octets in unicast packets dropped in the VOQ due to the congestion at the egress port/queue that were classified as high drop-
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probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-octets high-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">high-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **low-drop-probability** *number*

<b>Description</b>	The number of octets in unicast packets dropped in the VOQ due to the congestion at the egress port/queue that were classified as low drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-octets low-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">low-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **medium-drop-probability** *number*

<b>Description</b>	The number of octets in unicast packets dropped in the VOQ due to the congestion at the egress port/queue that were classified as medium drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-octets medium-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">medium-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## dropped-packets

<b>Description</b>	Enter the dropped-packets context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-packets</a>
<b>Tree</b>	<a href="#">dropped-packets</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## high-drop-probability *number*

<b>Description</b>	The number of unicast packets dropped in the VOQ due to the congestion at the egress port/queue that were classified as high drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-packets high-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">high-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## low-drop-probability *number*

<b>Description</b>	The number of unicast packets dropped in the VOQ due to the congestion at the egress port/queue that were classified as low drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number</a> <a href="#">dropped-packets low-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">low-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**medium-drop-probability** *number*

<b>Description</b>	The number of unicast packets dropped in the VOQ due to the congestion at the egress port/queue that were classified as medium drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number dropped-packets medium-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">medium-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**forwarded-octets**

<b>Description</b>	Enter the forwarded-octets context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-octets</a>
<b>Tree</b>	<a href="#">forwarded-octets</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**high-drop-probability** *number*

<b>Description</b>	The number of octets in unicast packets transmitted from the VOQ to the egress queue that were classified as high drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-octets high-drop-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">high-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**low-drop-probability number**

<b>Description</b>	The number of octets in unicast packets transmitted from the VOQ to the egress queue that were classified as low drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-octets low-drop-probability number</a>
<b>Tree</b>	<a href="#">low-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**medium-drop-probability number**

<b>Description</b>	The number of octets in unicast packets transmitted from the VOQ to the egress queue that were classified as medium drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-octets medium-drop-probability number</a>
<b>Tree</b>	<a href="#">medium-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**forwarded-packets**

<b>Description</b>	Enter the forwarded-packets context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-packets</a>
<b>Tree</b>	<a href="#">forwarded-packets</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**high-drop-probability number**

<b>Description</b>	The number of unicast packets transmitted from the VOQ to the egress queue that were classified as high drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-packets high-drop-probability number</a>
<b>Tree</b>	<a href="#">high-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**low-drop-probability number**

<b>Description</b>	The number of unicast packets transmitted from the VOQ to the egress queue that were classified as low drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-packets low-drop-probability number</a>
<b>Tree</b>	<a href="#">low-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**medium-drop-probability number**

<b>Description</b>	The number of unicast packets transmitted from the VOQ to the egress queue that were classified as medium drop-probability. This reads 0 when the IMM associated with the VOQ is not inserted and it resets to 0 whenever the IMM associated with the VOQ is removed.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number forwarded-packets medium-drop-probability number</a>
<b>Tree</b>	<a href="#">medium-drop-probability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## queue-depth

<b>Description</b>	Enter the queue-depth context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number queue-depth</a>
<b>Tree</b>	<a href="#">queue-depth</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## high-threshold-bytes *number*

<b>Description</b>	The operational hardware value of the high threshold in bytes.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number queue-depth high-threshold-bytes number</a>
<b>Tree</b>	<a href="#">high-threshold-bytes</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## last-high-threshold-time *string*

<b>Description</b>	The last time the depth of either VOQ associated with this slot exceeded the high-threshold in a rising direction.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output queue-statistics queue queue-name</a> ( <i>reference   keyword</i> ) <a href="#">virtual-output-queue slot number queue-depth last-high-threshold-time string</a>
<b>Tree</b>	<a href="#">last-high-threshold-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## scheduler

<b>Description</b>	Output traffic scheduler options
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler</a>
<b>Tree</b>	<a href="#">scheduler</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **scheduler-policy** *reference*

<b>Description</b>	Reference to a scheduler policy to apply to output traffic through the port.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler scheduler-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">scheduler-policy</a>
<b>Reference</b>	<a href="#">qos scheduler-policies scheduler-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **tier level** *number*

<b>Description</b>	List of output traffic scheduler tiers or levels
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler tier level</a> <i>number</i>
<b>Tree</b>	<a href="#">tier</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

### **level** *number*

<b>Description</b>	Enter the level context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler tier level</a> <i>number</i>
<b>Range</b>	1 to 4
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **node** [node-number](#) *number*

<b>Description</b>	List of scheduler nodes at the specified scheduler level
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler tier level</a> <i>number</i> <a href="#">node</a> <a href="#">node-number</a> <i>number</i>
<b>Tree</b>	<a href="#">node</a>
<b>Configurable</b>	True



<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	12

**node-number** *number*

<b>Description</b>	An identifier of the scheduler node. Within a scheduler tier, higher-numbered nodes are served before lower-numbered nodes.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler tier level</a> <i>number</i> <a href="#">node node-number</a> <i>number</i>
<b>Range</b>	0 to 11
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**strict-priority** *boolean*

<b>Description</b>	A true value configures the node for strict priority scheduling, whether or not a weight is also configured. When set to false the node is serviced using DWRR, even if the node does not have a configured weight; in this case the default weight value of 1 is used.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler tier level</a> <i>number</i> <a href="#">node node-number</a> <i>number</i> <a href="#">strict-priority</a> <i>boolean</i>
<b>Tree</b>	<a href="#">strict-priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**weight** *number*

<b>Description</b>	The DWRR weight assigned to the scheduler node
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output scheduler tier level</a> <i>number</i> <a href="#">node node-number</a> <i>number</i> <a href="#">weight</a> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Range</b>	1 to 127
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sflow**

<b>Description</b>	Context to configure sFlow parameters
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">sflow</a>
<b>Tree</b>	<a href="#">sflow</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable sFlow on this interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">sflow</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**carrier-transitions** *number*

<b>Description</b>	<p>Number of times the interface state has transitioned from down to up.</p> <p>This is reset to zero when the device is started or reset or the counters are cleared.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">carrier-transitions</a> <i>number</i>
<b>Tree</b>	<a href="#">carrier-transitions</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-broadcast-packets** *number*

<b>Description</b>	Corresponds to ifHCInBroadcastPkts from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics in-broadcast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-broadcast-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-discarded-packets** *number*

<b>Description</b>	Corresponds to ifInDiscards from the IFMIB. This counts the number of IP packets discarded due to VLAN mismatch, unknown dest MAC or drop by system-filter drop action.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**in-error-packets** *number*

<b>Description</b>	Corresponds to ifInErrors from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-fcs-error-packets** *number*

<b>Description</b>	Ingress FCS errors.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics in-fcs-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-fcs-error-packets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-multicast-packets** *number*

<b>Description</b>	Corresponds to ifHCInMulticastPkts from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">in-multicast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-multicast-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-octets** *number*

<b>Description</b>	Corresponds to ifHCInOctets from the IFMIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">in-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-packets** *number*

<b>Description</b>	Sum of all received packets, independent of protocol and forwarding type and before discards and errors
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-unicast-packets** *number*

<b>Description</b>	Corresponds to ifHCInUcastPkts from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">in-unicast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-unicast-packets</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the interface counters were cleared.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-broadcast-packets** *number*

<b>Description</b>	Corresponds to ifHCOutBroadcastPkts from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics out-broadcast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-broadcast-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-discarded-packets** *number*

<b>Description</b>	Corresponds to ifOutDiscards from the IF-MIB. On Jericho2 systems this counts packets dropped by an egress IP ACL of any of the port's subinterfaces.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics out-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-error-packets** *number*

<b>Description</b>	Corresponds to ifOutErrors from the IF-MIB.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-mirror-octets** *number*

<b>Description</b>	This counts the number of outgoing mirrored octets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-mirror-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-mirror-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**out-mirror-packets** *number*

<b>Description</b>	This counts the number of outgoing mirrored packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-mirror-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-mirror-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**out-multicast-packets** *number*

<b>Description</b>	Corresponds to ifHCOutMulticastPkts from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-multicast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-multicast-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-octets** *number*

<b>Description</b>	Corresponds to ifHCOutOctets from the IF-MIB.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-packets** *number*

<b>Description</b>	Sum of all transmitted packets, independent of protocol and forwarding type and before discards and errors
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-unicast-packets** *number*

<b>Description</b>	Corresponds to ifHCOutUcastPkts from the IF-MIB.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-unicast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-unicast-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **subinterface** [index](#) *number*

<b>Description</b>	The list of subinterfaces (logical interfaces) associated with a physical interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4095

**index number**

<b>Description</b>	The index of the subinterface, or logical interface number
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index number</a>
<b>Range</b>	0 to 9999
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**acl**

<b>Description</b>	Container for ACL policies applied to the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index number</a> <a href="#">acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**input**

<b>Description</b>	Container for ACL options that apply to ingress traffic on the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index number</a> <a href="#">acl</a> <a href="#">input</a>
<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-filter reference**

<b>Description</b>	IPv4 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv4 filter is supported.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index number</a> <a href="#">acl</a> <a href="#">input</a> <a href="#">ipv4-filter reference</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Reference</b>	<a href="#">acl</a> <a href="#">ipv4-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	2



**ipv6-filter** *reference*

<b>Description</b>	IPv6 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv6 filter is supported.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">acl input ipv6-filter reference</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Reference</b>	<a href="#">acl ipv6-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	2

**mac-filter** *reference*

<b>Description</b>	MAC ACL filter to be applied on this subinterface On 7220 IXR platforms MAC ACL is mutually exclusive with IP ACLs.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">acl input mac-filter reference</a>
<b>Tree</b>	<a href="#">mac-filter</a>
<b>Reference</b>	<a href="#">acl mac-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L
<b>Max. Elements</b>	1

**output**

<b>Description</b>	Container for ACL options that apply to egress traffic on the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">acl output</a>
<b>Tree</b>	<a href="#">output</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-filter** *reference*

<b>Description</b>	IPv4 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv4 filter is supported.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">acl output ipv4-filter reference</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Reference</b>	<a href="#">acl ipv4-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

### **ipv6-filter** *reference*

<b>Description</b>	IPv6 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv6 filter is supported.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">acl output ipv6-filter reference</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Reference</b>	<a href="#">acl ipv6-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

### **mac-filter** *reference*

<b>Description</b>	MAC ACL filter to be applied on this subinterface On 7220 IXR platforms MAC ACL is mutually exclusive with IP ACLs.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">acl output mac-filter reference</a>
<b>Tree</b>	<a href="#">mac-filter</a>
<b>Reference</b>	<a href="#">acl mac-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L
<b>Max. Elements</b>	1

### **admin-state** *keyword*

<b>Description</b>	The configured, desired state of the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">admin-state</a> <i>keyword</i>

<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## anycast-gw

<b>Description</b>	Enable the anycast-gw context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">anycast-gw</a>
<b>Tree</b>	<a href="#">anycast-gw</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## anycast-gw-mac *string*

<b>Description</b>	<p>The MAC address of associated to the anycast-gw IP address.</p> <p>If the anycast-gw MAC address is not configured, it will be auto-derived from the virtual-router-id value as per draft-ietf-bess-evpn-inter-subnet-forwarding following the format 00:00:5E:00:01:VRID.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">anycast-gw</a> <a href="#">anycast-gw-mac</a> <i>string</i>
<b>Tree</b>	<a href="#">anycast-gw-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## anycast-gw-mac-origin *keyword*

<b>Description</b>	<p>Origin of the active anycast-gateway MAC address.</p> <p>If not configured, the anycast-gateway-mac will be auto-derived out of 00:00:5E:00:01:VRID, where VRID is the Virtual Router Identifier of the subinterface anycast-gw.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">anycast-gw</a> <a href="#">anycast-gw-mac-origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">anycast-gw-mac-origin</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• configured</li> <li>• vrid-auto-derived</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### virtual-router-id *number*

<b>Description</b>	The Virtual Router Identifier (VRID) value used to auto-derive the anycast-gw-mac in the format 00:00:5E:00:01:VRID.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">anycast-gw virtual-router-id</a> <i>number</i>
<b>Tree</b>	<a href="#">virtual-router-id</a>
<b>Range</b>	1 to 255
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### bridge-table

<b>Description</b>	Enable the Bridge Table on the subinterface and configure associated parameters
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### discard-unknown-src-mac *boolean*

<b>Description</b>	Discard frames with unknown source mac addresses. The source mac address of the discarded frame is never learned when this command is enabled.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">discard-unknown-src-mac</a> <i>boolean</i>
<b>Tree</b>	<a href="#">discard-unknown-src-mac</a>
<b>Default</b>	false

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## mac-duplication

<b>Description</b>	Enter the mac-duplication context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a>
<b>Tree</b>	<a href="#">mac-duplication</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## action *keyword*

<b>Description</b>	Action to take on the subinterface upon detecting at least one mac addresses as duplicate on the subinterface. In particular:
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">action</a> <i>keyword</i>
<b>Tree</b>	<a href="#">action</a>
<b>Default</b>	use-net-instance-action
<b>Options</b>	<ul style="list-style-type: none"> <li>• use-net-instance-action</li> <li>• stop-learning</li> <li>• blackhole</li> <li>• oper-down</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## duplicate-entries

<b>Description</b>	Enter the duplicate-entries context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a>
<b>Tree</b>	<a href="#">duplicate-entries</a>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### mac address string

**Description** macs duplicate on the bridging instance

**Context** [interface name string subinterface index number bridge-table mac-duplication duplicate-entries mac address string](#)

**Tree** [mac](#)

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### address string

**Description** Enter the address context

**Context** [interface name string subinterface index number bridge-table mac-duplication duplicate-entries mac address string](#)

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### dup-detect-time string

**Description** The date and time when the mac was declared duplicate

**Context** [interface name string subinterface index number bridge-table mac-duplication duplicate-entries mac address string dup-detect-time string](#)

**Tree** [dup-detect-time](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### hold-down-time-remaining (keyword | number)

**Description** remaining hold down time for duplicate mac

**Context** [interface name string subinterface index number bridge-table mac-duplication duplicate-entries mac address string hold-down-time-remaining \(keyword | number\)](#)

<b>Tree</b>	<a href="#">hold-down-time-remaining</a>
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>indefinite</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## mac-learning

<b>Description</b>	Enter the mac-learning context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a>
<b>Tree</b>	<a href="#">mac-learning</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## admin-state *keyword*

<b>Description</b>	Configurable state of the learning procedures for dynamic mac addresses. If disabled, the existing macs in the bridge-table will be kept (and refreshed if new frames arrive for them) but no new mac addresses will be learned. Frames with unknown mac addresses are not dropped, unless discard-unknown-src-mac is configured.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>enable</li> <li>disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## aging

<b>Description</b>	Enter the aging context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">aging</a>

<b>Tree</b>	<a href="#">aging</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **admin-state** *keyword*

<b>Description</b>	Configurable state of the aging for the dynamic mac entries in the bridge table. If disabled, dynamically learned mac entries will be programmed in the bridge table until the network instance is disabled.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">aging</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **learnt-entries**

<b>Description</b>	Enter the learnt-entries context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a>
<b>Tree</b>	<a href="#">learnt-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **mac** [address](#) *string*

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False



**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### address *string*

**Description** Enter the address context

**Context** [interface name](#) *string* [subinterface](#) *index number* [bridge-table](#) [mac-learning](#) [learnt-entries](#) [mac address](#) *string*

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### aging (*number* | *keyword*)

**Description** remaining age time for learnt macs

**Context** [interface name](#) *string* [subinterface](#) *index number* [bridge-table](#) [mac-learning](#) [learnt-entries](#) [mac address](#) *string* [aging](#) (*number* | *keyword*)

**Tree** [aging](#)

**Units** seconds

**Options**

- disabled

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### last-update *string*

**Description** The date and time of the last update of this learnt mac

**Context** [interface name](#) *string* [subinterface](#) *index number* [bridge-table](#) [mac-learning](#) [learnt-entries](#) [mac address](#) *string* [last-update](#) *string*

**Tree** [last-update](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### mac-limit

**Description** Bridge Table size and thresholds.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-limit</a>
<b>Tree</b>	<a href="#">mac-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **maximum-entries** *number*

<b>Description</b>	Maximum number of mac addresses allowed in the bridge-table.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-limit</a> <a href="#">maximum-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-entries</a>
<b>Range</b>	1 to 8192
<b>Default</b>	250
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **warning-threshold-pct** *number*

<b>Description</b>	Percentage of the configured max-number-macs over which a warning is triggered. The warning message is cleared when the percentage drops below the configured percentage minus 5%
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-limit</a> <a href="#">warning-threshold-pct</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold-pct</a>
<b>Range</b>	6 to 100
<b>Default</b>	95
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **mac-table**

<b>Description</b>	Enter the mac-table context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-table</a>
<b>Tree</b>	<a href="#">mac-table</a>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### mac address string

**Description** macs learnt on the bridging instance

**Context** [interface name string subinterface index number bridge-table mac-table mac address string](#)

**Tree** [mac](#)

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### address string

**Description** Enter the address context

**Context** [interface name string subinterface index number bridge-table mac-table mac address string](#)

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### failed-slots number

**Description** The list of slot IDs corresponding to the linecards that did not successfully program the mac

**Context** [interface name string subinterface index number bridge-table mac-table mac address string failed-slots number](#)

**Tree** [failed-slots](#)

**Range** 1 to 8

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### last-update string

**Description** The date and time of the last update of this mac

**Context** [interface name string subinterface index number bridge-table mac-table mac address string last-update string](#)

<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **not-programmed-reason** *keyword*

<b>Description</b>	The reason why the mac is not programmed
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table mac-table mac address</a> <i>string</i> <a href="#">not-programmed-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• mac-limit</li> <li>• failed-on-slots</li> <li>• no-destination-index</li> <li>• reserved</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **type** *keyword*

<b>Description</b>	The type of the mac installed in the fib.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table mac-table mac address</a> <i>string</i> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> <li>• evpn</li> <li>• evpn-static</li> <li>• irb-interface-anycast</li> <li>• proxy-anti-spoof</li> <li>• reserved</li> <li>• eth-cfm</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## active-entries *number*

<b>Description</b>	The total number of entries that are active on the sub-interface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">statistics</a> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## failed-entries *number*

<b>Description</b>	The total number of macs, which have not been programmed on atleast one slot
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">statistics</a> <a href="#">failed-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac-type** *type keyword*

<b>Description</b>	The type of the mac on the sub-interface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table statistics</a> <a href="#">mac-type type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mac-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**type** *keyword*

<b>Description</b>	Enter the type context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table statistics</a> <a href="#">mac-type type</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> <li>• evpn</li> <li>• evpn-static</li> <li>• irb-interface-anycast</li> <li>• proxy-anti-spoof</li> <li>• reserved</li> <li>• eth-cfm</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**active-entries** *number*

<b>Description</b>	The total number of entries of this type on the sub-interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">bridge-table statistics</a> <a href="#">mac-type type</a> <i>keyword</i> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **failed-entries** *number*

**Description** The total number of macs of this type, which have not been programmed on atleast one slot

**Context** [interface name](#) *string* [subinterface index](#) *number* [bridge-table statistics mac-type type](#) *keyword* **failed-entries** *number*

**Tree** [failed-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of macs of this type , active and inactive, on the sub-interface.

**Context** [interface name](#) *string* [subinterface index](#) *number* [bridge-table statistics mac-type type](#) *keyword* **total-entries** *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of macs, active and inactive, on the sub-interface.

**Context** [interface name](#) *string* [subinterface index](#) *number* [bridge-table statistics total-entries](#) *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**description** *string*

<b>Description</b>	A user-configured description of the interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ethernet-segment-association**

<b>Description</b>	ethernet-segment association information.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ethernet-segment-association</a>
<b>Tree</b>	<a href="#">ethernet-segment-association</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**designated-forwarder** *boolean*

<b>Description</b>	The value of this leaf indicates if the interface is the designated forwarder for the ethernet-segment on the network-instance.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ethernet-segment-association</a> <a href="#">designated-forwarder</a> <i>boolean</i>
<b>Tree</b>	<a href="#">designated-forwarder</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**es-managed** *boolean*

<b>Description</b>	The value of this leaf indicates if the interface is managed by the ethernet-segment on the network-instance.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ethernet-segment-association</a> <a href="#">es-managed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">es-managed</a>
<b>Default</b>	false
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### ethernet-segment *string*

**Description** The value of this leaf indicates the ethernet-segment, the sub-interface is associated to.

**Context** [interface name \*string\*](#) [subinterface index \*number\*](#) [ethernet-segment-association ethernet-segment \*string\*](#)

**Tree** [ethernet-segment](#)

**String Length** 1 to 255

**Configurable** False

**Platforms** Supported on all platforms

### ifindex *number*

**Description** System-wide persistent unique ifIndex assigned to the subinterface

**Context** [interface name \*string\*](#) [subinterface index \*number\*](#) [ifindex \*number\*](#)

**Tree** [ifindex](#)

**Configurable** False

**Platforms** Supported on all platforms

### ip-mtu *number*

**Description** IP MTU of the subinterface in bytes.  
Includes the IP header but excludes Ethernet encapsulation.  
IP MTU specifies the maximum sized IPv4 or IPv6 packet that can be transmitted on the subinterface. If an IPv4 or IPv6 packet exceeds this size it is dropped and this may result in the generation of an ICMP error message back to the source.  
The default IP MTU for a subinterface is taken from /system/mtu/default-ip-mtu. For the mgmt0 and mgmt0-standby subinterfaces the default is the associated interface MTU minus the Ethernet encapsulation overhead.  
The IP MTU is not configurable for subinterfaces of loopback interfaces.  
The 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D3, 7220 IXR-H2, and 7220 IXR-H3 systems support a maximum IP MTU of 9398 bytes.  
Each 7250 IXR IMM supports a maximum of 4 different IP MTU values. 7220 IXR systems do not have any limit on the maximum number of different IP MTU values.

**Context** [interface name \*string\*](#) [subinterface index \*number\*](#) [ip-mtu \*number\*](#)

<b>Tree</b>	<a href="#">ip-mtu</a>
<b>Range</b>	1280 to 9486
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv4

<b>Description</b>	IPv4 configuration and state for the subinterface
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4</a>
<b>Tree</b>	<a href="#">ipv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## address [ip-prefix string](#)

<b>Description</b>	The list of IPv4 addresses assigned to the subinterface.
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 address ip-prefix string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	64

## [ip-prefix string](#)

<b>Description</b>	<p>The IPv4 address and prefix length in CIDR notation</p> <p>Subnets on the same subinterface are allowed to overlap as long as the host bits are different. When a locally originated unicast packet is destined to a host covered by multiple subnets associated with a subinterface, the source address is chosen to be the numerically lowest IP address among all these subnets. For example, if the addresses 172.16.1.1/12, 172.16.1.2/12, and 172.16.1.3/12 are configured on the same interface, 172.16.1.1 would be used as a local address when you issue a ping 172.16.1.5 command</p>
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 address ip-prefix string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**anycast-gw** *boolean*

<b>Description</b>	This designates the associated IPv4 address as an anycast-gateway IPv4 address of the subinterface. When this parameter is set to true:
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 address ip-prefix</a> <i>string</i> <a href="#">anycast-gw</a> <i>boolean</i>
<b>Tree</b>	<a href="#">anycast-gw</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**origin** *keyword*

<b>Description</b>	The origin of the IPv4 address.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 address ip-prefix</a> <i>string</i> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• other</li> <li>• static</li> <li>• dhcp</li> <li>• link-layer</li> <li>• random</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**primary**

<b>Description</b>	One of the IPv4 prefixes assigned to the subinterface can be explicitly configured as primary by setting this leaf to true. This designates the associated IPv4 address as a primary IPv4 address of the subinterface. By default, the numerically lowest value IPv4 address is selected as the primary address.  The primary address is used as the source address for locally originated broadcast and multicast packets sent out the subinterface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 address ip-prefix</a> <i>string</i> <a href="#">primary</a>
<b>Tree</b>	<a href="#">primary</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **status** *keyword*

**Description** The status of an IPv4 address

**Context** [interface name](#) *string* [subinterface index](#) *number* [ipv4 address ip-prefix](#) *string* [status](#) *keyword*

**Tree** [status](#)

**Options**

- preferred
- inaccessible
- tentative
- duplicate

**Configurable** False

**Platforms** Supported on all platforms

### **admin-state** *keyword*

**Description** Enable/disable IPv4 on the subinterface

When set to enable, and even before an IPv4 address is configured, the subinterface starts to accept incoming packets with dest-ip 255.255.255.255, which is necessary to support dhcp-client functionality.

**Context** [interface name](#) *string* [subinterface index](#) *number* [ipv4 admin-state](#) *keyword*

**Tree** [admin-state](#)

**Default** disable

**Options**

- enable
- disable

**Configurable** True

**Platforms** Supported on all platforms

### **allow-directed-broadcast** *boolean*

**Description** When this is set to true the software is allowed to re-broadcast targeted broadcast IPv4 packets on this subinterface

Detailed handling of subnet broadcast is as follows:

If a targeted broadcast packet is received on subinterface X that has the matching subnet then it is delivered to the CPM and CPM will reply to an ICMP echo.

If a targeted broadcast packet is received on subinterface X but the matching subnet is associated with subinterface Y, and subinterface Y is configured with `allow-directed-broadcasts=false` then it is delivered to the CPM and CPM replies to an ICMP echo per above, but it does not re-broadcast the packet on subinterface Y.

If a targeted broadcast packet is received on subinterface X but the matching subnet is associated with subinterface Y, and subinterface Y is configured with `allow-directed-broadcasts=true` then it is delivered to the CPM and CPM replies to an ICMP echo per above, and CPM also re-broadcasts the packet on subinterface Y.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 allow-directed-broadcast</a> <i>boolean</i>
<b>Tree</b>	<a href="#">allow-directed-broadcast</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## arp

<b>Description</b>	Container for the IPv4 ARP protocol
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp</a>
<b>Tree</b>	<a href="#">arp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## debug *keyword*

<b>Description</b>	List of events to debug
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp debug</a> <i>keyword</i>
<b>Tree</b>	<a href="#">debug</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>messages</li> </ul> <p>Capture all arp-request and reply-messages sent and received by the subinterface</p>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**duplicate-address-detection** *boolean*

<b>Description</b>	If set to true IPv4 Address Conflict Detection per RFC 5227 is performed on the IPv4 address assigned to the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp duplicate-address-detection</a> <i>boolean</i>
<b>Tree</b>	<a href="#">duplicate-address-detection</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**evpn**

<b>Description</b>	Configure which types of ARP or ND entries will be advertised in EVPN MAC/IP routes.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**advertise** [route-type](#) *keyword*

<b>Description</b>	Add a list entry for advertise
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp evpn advertise route-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">advertise</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**route-type** *keyword*

<b>Description</b>	Controls what type of ARP or ND entries to advertise.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp evpn advertise route-type</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## host-route

<b>Description</b>	Configure which types of ARP or ND entries will be populated in the route-table.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">arp</a> <a href="#">host-route</a>
<b>Tree</b>	<a href="#">host-route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## populate [route-type](#) *keyword*

<b>Description</b>	Enter the populate list instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">arp</a> <a href="#">host-route</a> <a href="#">populate</a> <a href="#">route-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">populate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## [route-type](#) *keyword*

<b>Description</b>	Controls what type of ARP or ND entries generate a host route.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">arp</a> <a href="#">host-route</a> <a href="#">populate</a> <a href="#">route-type</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## [datapath-programming](#) *boolean*

<b>Description</b>	When set to true, the host route is programmed in the datapath
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp host-route populate route-type</a> <i>keyword</i> <a href="#">datapath-programming</a> <i>boolean</i>
<b>Tree</b>	<a href="#">datapath-programming</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **learn-unsolicited** *boolean*

<b>Description</b>	If set to true an ARP entry should be learned from any received ARP packets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp learn-unsolicited</a> <i>boolean</i>
<b>Tree</b>	<a href="#">learn-unsolicited</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **neighbor** [ipv4-address](#) *string*

<b>Description</b>	List of static and dynamic ARP cache entries that map an IPv4 address to a MAC address  To configure a static ARP entry a value must be written into this leaf and the link-layer-address leaf.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ipv4-address** *string*

<b>Description</b>	IPv4 address resolved by the ARP entry  To configure a static neighbor entry a value must be written into this leaf and the link-layer-address leaf.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### datapath-programming

<b>Description</b>	Container for state related to the datapath programming of the ARP or neighbor entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i> <a href="#">datapath-programming</a>
<b>Tree</b>	<a href="#">datapath-programming</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-failed-complexes *string*

<b>Description</b>	List of forwarding complexes that reported a failure for the last operation. They appear in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i> <a href="#">datapath-programming last-failed-complexes</a> <i>string</i>
<b>Tree</b>	<a href="#">last-failed-complexes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### status *keyword*

<b>Description</b>	The status of the ARP or neighbor entry with respect to datapath programming
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i> <a href="#">datapath-programming status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• success All linecard complexes have reported that the entry was programmed successfully</li> <li>• failed At least one linecard complex reported that the entry was not programmed successfully or else this entry was not even provided to the datapath for programming because the system limit on the number of IPv4 ARP and IPv6 neighbor entries was exceeded</li> <li>• pending</li> </ul>

The ARP or neighbor entry was provided to the datapath for programming but at least one linecard complex has not provided a status yet.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### expiration-time *string*

<b>Description</b>	The date and time when the dynamic ARP entry is set to expire
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i> <a href="#">expiration-time</a> <i>string</i>
<b>Tree</b>	<a href="#">expiration-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### link-layer-address *string*

<b>Description</b>	The resolving MAC address of the ARP entry To configure a static ARP entry a value must be written into this leaf and the ipv4-address leaf.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### origin *keyword*

<b>Description</b>	The origin of the ARP entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 arp neighbor ipv4-address</a> <i>string</i> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• other</li> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> </ul>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### proxy-arp *boolean*

**Description** When set to true, the router replies with its own MAC to ARP Request destined to any host.

**Context** [interface name string subinterface index number ipv4 arp proxy-arp boolean](#)

**Tree** [proxy-arp](#)

**Default** false

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### timeout *number*

**Description** Duration of time that dynamic ARP entries remain in the ARP cache before they expire

A change to this value does not affect existing entries until they are refreshed.

**Context** [interface name string subinterface index number ipv4 arp timeout number](#)

**Tree** [timeout](#)

**Range** 60 to 65535

**Default** 14400

**Units** seconds

**Configurable** True

**Platforms** Supported on all platforms

### virtual-ipv4-discovery

**Description** Enable Virtual IPv4 discovery on the subinterface and configure associated parameters

When enabled, the system will attempt to discover the configured virtual IPv4 addresses on the listed bridged subinterfaces.

**Context** [interface name string subinterface index number ipv4 arp virtual-ipv4-discovery](#)

**Tree** [virtual-ipv4-discovery](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### address *ipv4-address string*

**Description** The list of virtual IPv4 addresses to be discovered on the subinterface.

**Context** [interface name string subinterface index number ipv4 arp virtual-ipv4-discovery address ipv4-address string](#)

**Tree** [address](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**Max. Elements** 640

### ipv4-address *string*

**Description** The virtual IPv4 address.

**Context** [interface name string subinterface index number ipv4 arp virtual-ipv4-discovery address ipv4-address string](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### allowed-macs *string*

**Description** List of allowed mac addresses for a discovered virtual IP address.

**Context** [interface name string subinterface index number ipv4 arp virtual-ipv4-discovery address ipv4-address string allowed-macs string](#)

**Tree** [allowed-macs](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**Max. Elements** 10

**probe-bridged-subinterfaces** *string*

<b>Description</b>	Configure the list of bridged sub-interfaces on the associated MAC-VRF to which the ARP probes are sent.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv4 arp virtual-ipv4-discovery address</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">probe-bridged-subinterfaces</a> <i>string</i>
<b>Tree</b>	<a href="#">probe-bridged-subinterfaces</a>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	10

**probe-interval** *number*

<b>Description</b>	Configure the ARP probe interval at which the system sends an ARP request for the virtual IPv4 address.  The default value of zero determines that the system sends an ARP Request for the virtual IPv4 only when the address is configured. The creation of the ARP entry for the virtual IPv4 address will in this case rely on the server sending a Gratuitous ARP for the virtual IPv4 address. When the value is set to a non-zero interval, the system sends a periodic ARP Request at the configured interval and irrespective of the ARP entry being already created.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv4 arp virtual-ipv4-discovery address</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">probe-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">probe-interval</a>
<b>Range</b>	0   5 to 86400
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**statistics**

<b>Description</b>	Statistics for the Virtual IP address
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv4 arp virtual-ipv4-discovery address</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">statistics</a>

<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### out-probe-packets *number*

<b>Description</b>	The number of probe packets transmitted for the Virtual IP discovery.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp</a> <a href="#">virtual-ipv4-discovery</a> <a href="#">address</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">statistics</a> <a href="#">out-probe-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-probe-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### statistics

<b>Description</b>	Global statistics for Virtual IP discovery
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp</a> <a href="#">virtual-ipv4-discovery</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### out-total-probe-packets *number*

<b>Description</b>	The number of total probe packets transmitted for Virtual discovery.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp</a> <a href="#">virtual-ipv4-discovery</a> <a href="#">statistics</a> <a href="#">out-total-probe-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-total-probe-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## dhcp-client

**Description** Container for options related to DHCP

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [ipv4](#) [dhcp-client](#)

**Tree** [dhcp-client](#)

**Configurable** True

**Platforms** Supported on all platforms

## trace-options

**Description** Container for tracing DHCPv4 operations on the subinterface

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [ipv4](#) [dhcp-client](#) [trace-options](#)

**Tree** [trace-options](#)

**Configurable** True

**Platforms** Supported on all platforms

## trace keyword

**Description** List of events to trace

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [ipv4](#) [dhcp-client](#) [trace-options](#) [trace](#) *keyword*

**Tree** [trace](#)

**Options**

- `messages`  
Capture all DHCPv4 messages sent and received by the subinterface

**Configurable** True

**Platforms** Supported on all platforms

## dhcp-relay

**Description** Container for options related to DHCPv4 relay

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [ipv4](#) [dhcp-relay](#)

**Tree** [dhcp-relay](#)

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	The configurable state of the dhcp relay agent
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **gi-address** *string*

<b>Description</b>	IPv4 address to be used as giaddr of the relayed packets towards DHCPv4 servers. This address can be any IPv4 address configured within the network-instance towards the DHCPv4 server
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay gi-address</a> <i>string</i>
<b>Tree</b>	<a href="#">gi-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **network-instance** *reference*

<b>Description</b>	network instance to relay dhcp packets to
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**oper-down-reason** *keyword*

<b>Description</b>	The reason causing the dhcp relay agent to go into operational down state
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• dhcp-relay-admin-down</li> <li>• sub-interface-oper-down</li> <li>• all-dhcp-servers-unreachable-within-net-instance</li> <li>• gi-address-not-matching-relay-sub-interface-ipv4-addresses</li> <li>• no-valid-ipv4-address-on-sub-interface</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	The operational state of the dhcp relay agent
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading</li> </ul>

- Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **option** *keyword*

<b>Description</b>	List of option82 suboptions to insert into relayed packet towards DHCPv4 server
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <a href="#">number</a> <a href="#">ipv4</a> <a href="#">dhcp-relay</a> <a href="#">option</a> <i>keyword</i>
<b>Tree</b>	<a href="#">option</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• circuit-id Enable option 82 suboption 1 circuit-id into relayed packet towards DHCPv4 server, format=system_name/VRF_instance/sub-interface_id:vlan_id</li> <li>• remote-id Enable option 82 suboption 2 remote-id into relayed packet towards DHCPv4 server, format=client MAC address</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**server** (*ipv4-address* | *domain-name*)

<b>Description</b>	List of the DHCPv4 servers that the DHCPv4 relay function will relay DHCPv4 packets to/from
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay server</a> ( <i>ipv4-address</i>   <i>domain-name</i> )
<b>Tree</b>	<a href="#">server</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	8
<b>Min. Elements</b>	1

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**client-packets-discarded** *number*

<b>Description</b>	Total discarded dhcp packets from dhcp client(s) towards DHCP server(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay statistics</a> <a href="#">client-packets-discarded</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-discarded</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**client-packets-received** *number*

<b>Description</b>	Total received dhcp packets from dhcp client(s) for DHCP Relay
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay statistics</a> <a href="#">client-packets-received</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-received</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **client-packets-relayed** *number*

<b>Description</b>	Total relayed dhcp packets from dhcp client(s) towards DHCP server(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay statistics</a> <a href="#">client-packets-relayed</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-relayed</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **server-packets-discarded** *number*

<b>Description</b>	Total discarded dhcp packets from DHCP server(s) towards dhcp client(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay statistics</a> <a href="#">server-packets-discarded</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-discarded</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **server-packets-received** *number*

<b>Description</b>	Total received dhcp packets from DHCP server(s) for DHCP Relay
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 dhcp-relay statistics</a> <a href="#">server-packets-received</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **server-packets-relayed** *number*

<b>Description</b>	Total relayed dhcp packets from DHCP server(s) towards dhcp client(s)
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay statistics server-packets-relayed</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-relayed</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## trace-options

<b>Description</b>	Container for tracing DHCPv4 relay operations on the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## trace *keyword*

<b>Description</b>	List of events to trace
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay trace-options trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>messages Capture all DHCPv4 messages sent and received by the subinterface</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## use-gi-addr-as-src-ip-addr *boolean*

<b>Description</b>	When this is set, the configured giaddress will be used as source ip address.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-relay use-gi-addr-as-src-ip-addr</a> <i>boolean</i>
<b>Tree</b>	<a href="#">use-gi-addr-as-src-ip-addr</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dhcp-server

<b>Description</b>	Enable the dhcp-server context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-server</a>
<b>Tree</b>	<a href="#">dhcp-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## admin-state *keyword*

<b>Description</b>	Enables/Disables DHCP server function on subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-server admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## oper-state *keyword*

<b>Description</b>	Details if the dhcp server is operationally available
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 dhcp-server oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> </ul>

- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**statistics****Description**

Container for subinterface statistics, counting IPv4 packets or IPv6 packets or both depending on the context

**Context**[interface name](#) [string](#) [subinterface](#) [index](#) [number](#) [ipv4](#) [statistics](#)**Tree**[statistics](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**in-discarded-packets** *number***Description**

The total number of input IPv4 packets or IPv6 packets or both (transit and terminating traffic) that were dropped for any of the following reasons:

This also includes IP/MPLS packets dropped by ingress interface ACL drop action or CPM filter drop action.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 statistics in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-error-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both discarded due to errors, counting transit and terminating traffic  The sum of the following RFC 4293 counters: ipIfStatsInHdrErrors ipIfStatsInNoRoutes ipIfStatsInAddrErrors ipIfStatsInUnknownProtos ipIfStatsInTruncatedPkts
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 statistics in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-octets** *number*

<b>Description</b>	The number of octets in input IPv4 packets or IPv6 packets or both received on this subinterface and counted in in-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 statistics in-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-packets** *number*

<b>Description</b>	The number of input IPv4 packets or IPv6 packets or both received on this subinterface for which the router was not the final destination and for which the router attempted to find a route to forward them to that final destination.
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Note that non-terminating IPv4 packets with options and non-terminating IPv6 packets with extension headers are included in this count (and not dropped) as are packets that trigger ICMP/ICMPv6 redirect messages.

On 7220 IXR systems this also counts received traffic that is terminating.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics in-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-matched-ra-packets** *number*

<b>Description</b>	The total number of IPv6 packets matched with applied RA-Guard policy
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics in-matched-ra-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-ra-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-octets** *number*

<b>Description</b>	The total number of octets received in input packets, counting transit and terminating traffic
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics in-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-packets** *number*

<b>Description</b>	The total number of input packets received, counting transit and terminating traffic
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This equals the sum of: in-error-packets in-discarded-packets (also includes IP/MPLS packets) in-terminated-packets (also includes IP/MPLS packets) in-forwarded-packets

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics in-packets number</a>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-terminated-octets** *number*

<b>Description</b>	The total number of octets in input IPv4 packets or IPv6 packets or both that were received on this subinterface and counted in in-terminated-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics in-terminated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-terminated-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-terminated-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both that were received on this subinterface and that have a destination IP address matching a local interface address or an IPv6 multicast address to which the interface belongs. The count includes packets eventually discarded by the CPM. Such discards include:  This also includes terminating IP/MPLS packets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics in-terminated-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-terminated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **last-clear** *string*

<b>Description</b>	Timestamp of the last time the subinterface counters were cleared.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-discarded-packets** *number*

<b>Description</b>	The total number of IPv4 packets or IPv6 packets or both, originating and transit, sent towards this subinterface that were dropped.  This also includes IP/MPLS packets dropped by egress interface ACL drop action.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-error-packets** *number*

<b>Description</b>	The number of IPv4 packets or IPv6 packets or both, originating and transit, for which this router was successful in finding a path to their final destination through this subinterface but an error prevented their transmission.  On 7250 IXR systems this is incremented when the IPv4 packet size exceeds the IP MTU and fragmentation was not allowed or not supported
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-forwarded-octets** *number*

<b>Description</b>	The number of octets in transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-forwarded-packets** *number*

<b>Description</b>	The number of transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-octets** *number*

<b>Description</b>	The total number of octets in IPv4 packets or IPv6 packets or both delivered to the lower layers for transmission
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-originated-octets** *number*

<b>Description</b>	The number of octets in IPv4 packets or IPv6 packets or both which originated on the CPM and which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-originated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-octets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-originated-packets** *number*

<b>Description</b>	The number of IPv4 packets or IPv6 packets or both which originated on the CPM and which the router attempted to route out this subinterface  This includes all originated ICMP/ICMPv6 messages.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-originated-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-packets** *number*

<b>Description</b>	The total number of IPv4 packets or IPv6 packets or both that this router supplied to the lower layers for transmission  This includes packets generated locally and those forwarded by this router. If there are no queue drops it is equal to: <out-forwarded-packets> + <out-originated-packets>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv4 statistics out-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **ipv6**

<b>Description</b>	IPv6 configuration and state for the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6</a>
<b>Tree</b>	<a href="#">ipv6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address** *ip-prefix string*

<b>Description</b>	The list of IPv6 addresses assigned to the subinterface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 address ip-prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	18

**ip-prefix** *string*

<b>Description</b>	The IPv6 address and prefix-length in CIDR notation Up to 16 global unicast IPv6 addresses can be assigned to each subinterface. Global unicast IPv6 address subnets on the same subinterface are allowed to overlap as long as the host bits are different. When a locally originated unicast packet is destined to a host covered by multiple subnets associated with a subinterface, the source address is chosen to be the numerically lowest IP address among all these subnets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 address ip-prefix</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**anycast-gw** *boolean*

<b>Description</b>	This designates the associated IPv6 address as an anycast-gateway IPv6 address of the subinterface. When this parameter is set to true:
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 address ip-prefix</a> <i>string</i> <a href="#">anycast-gw</a> <i>boolean</i>
<b>Tree</b>	<a href="#">anycast-gw</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**origin** *keyword*

<b>Description</b>	The origin of the IPv6 address
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 address ip-prefix</a> <i>string</i> <a href="#">origin</a> <i>keyword</i>

<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• other</li> <li>• static</li> <li>• dhcp</li> <li>• link-layer</li> <li>• random</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## primary

<b>Description</b>	<p>One of the IPv6 prefixes assigned to the subinterface can be explicitly configured as primary by setting this leaf to true. This designates the associated IPv6 address as a primary IPv6 address of the subinterface. By default, the numerically lowest value IPv6 address is selected as the primary address.</p> <p>The primary address is used as the source address for locally originated broadcast and multicast packets sent out the subinterface.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 address ip-prefix</a> <i>string</i> <a href="#">primary</a>
<b>Tree</b>	<a href="#">primary</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## status *keyword*

<b>Description</b>	The status of an IPv6 address
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 address ip-prefix</a> <i>string</i> <a href="#">status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• preferred</li> <li>• deprecated</li> <li>• invalid</li> <li>• inaccessible</li> <li>• unknown</li> <li>• tentative</li> <li>• duplicate</li> </ul>

	<ul style="list-style-type: none"> <li>• optimistic</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### admin-state *keyword*

<b>Description</b>	<p>Enable/disable IPv6 on the subinterface</p> <p>When set to enable, and even before a global unicast IPv6 address is configured, chassis manager assigns an IPv6 link-local address to the subinterface, which will appear as a read-only entry in the address list. At this stage, the subinterface can receive IPv6 packets with any of the following destinations:</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### dhcp-client

<b>Description</b>	Container for options related to DHCPv6
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-client</a>
<b>Tree</b>	<a href="#">dhcp-client</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### trace-options

<b>Description</b>	Container for tracing DHCPv6 operations on the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-client</a> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**trace** *keyword*

<b>Description</b>	List of events to trace
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-client</a> <a href="#">trace-options</a> <a href="#">trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">messages</a> Capture all DHCPv6 messages sent and received by the subinterface</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dhcp-relay**

<b>Description</b>	Container for options related to DHCPv6 relay
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-relay</a>
<b>Tree</b>	<a href="#">dhcp-relay</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	The configurable state of the dhcp relay agent
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-relay</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">enable</a></li> <li>• <a href="#">disable</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance** *reference*

<b>Description</b>	network instance to relay dhcp packets to
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-relay</a> <a href="#">network-instance</a> <i>reference</i>

<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-down-reason** *keyword*

<b>Description</b>	The reason causing the dhcp relay agent to go into operational down state
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• dhcp-relay-admin-down</li> <li>• sub-interface-oper-down</li> <li>• all-dhcpv6-servers-unreachable-within-net-instance</li> <li>• source-address-not-matching-relay-sub-interface-ipv6-addresses</li> <li>• no-valid-ipv6-address-on-sub-interface</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of the dhcp relay agent
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting</li> </ul>

Component image operational, application processes starting

- failed

Component or process has failed

- synchronizing

Component is currently being synchronized

- upgrading

Component is currently being upgraded

- low-power

Component is offline due to insufficient system power

- degraded

Component or process is in a degraded state

- warm-reboot

Component or process is currently warm rebooting

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

### **option** *keyword*

**Description**

List of options to insert into relayed packet towards DHCPv6 server

**Context**

[interface name](#) *string* [subinterface](#) *index number* [ipv6 dhcp-relay option](#) *keyword*

**Tree**

[option](#)

**Options**

- interface-id

Enable option 18 Interface-Id into relayed packet towards DHCPv6 server, format=system\_name/VRF\_instance/sub-interface\_id:vlan\_id

- remote-id

Enable option 37 Remote Identifier into relayed packet towards DHCPv6 server, format=client MAC address

- client-link-layer-address

Enable option 79 Client Link-Layer Address into relayed packet towards DHCPv6 server, format based on rfc-6939

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **server** (*ipv6-address* | *domain-name*)

<b>Description</b>	List of the DHCPv6 servers that the DHCPv6 relay function will relay DHCPv6 packets to/from
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6 dhcp-relay server</a> ( <i>ipv6-address</i>   <i>domain-name</i> )
<b>Tree</b>	<a href="#">server</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	8
<b>Min. Elements</b>	1

### **source-address** *string*

<b>Description</b>	Source IPv6 address of the relayed packets towards DHCPv6 servers this address can be any IPv6 address configured within the network-instance towards the DHCPv6 server
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6 dhcp-relay source-address</a> <i>string</i>
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6 dhcp-relay statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**client-packets-discarded** *number*

<b>Description</b>	Total discarded dhcp packets from dhcp client(s) towards DHCP server(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay statistics</a> <a href="#">client-packets-discarded</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-discarded</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**client-packets-received** *number*

<b>Description</b>	Total received dhcp packets from dhcp client(s) for DHCP Relay
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay statistics</a> <a href="#">client-packets-received</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**client-packets-relayed** *number*

<b>Description</b>	Total relayed dhcp packets from dhcp client(s) towards DHCP server(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay statistics</a> <a href="#">client-packets-relayed</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-relayed</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**server-packets-discarded** *number*

<b>Description</b>	Total discarded dhcp packets from DHCP server(s) towards dhcp client(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay statistics</a> <a href="#">server-packets-discarded</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-discarded</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### server-packets-received *number*

<b>Description</b>	Total received dhcp packets from DHCP server(s) for DHCP Relay
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay statistics server-packets-received</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### server-packets-relayed *number*

<b>Description</b>	Total relayed dhcp packets from DHCP server(s) towards dhcp client(s)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay statistics server-packets-relayed</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-relayed</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### trace-options

<b>Description</b>	Container for tracing DHCPv6 relay operations on the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### trace *keyword*

<b>Description</b>	List of events to trace
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 dhcp-relay trace-options trace</a> <i>keyword</i>

<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>messages Capture all DHCPv6 messages sent and received by the subinterface</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dhcpv6-server

<b>Description</b>	Enable the dhcpv6-server context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcpv6-server</a>
<b>Tree</b>	<a href="#">dhcpv6-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## admin-state *keyword*

<b>Description</b>	Enables/Disables DHCPv6 server function on subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcpv6-server</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>enable</li> <li>disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## oper-state *keyword*

<b>Description</b>	Details if the dhcp server is operationally available
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcpv6-server</a> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>up Component or process is operational</li> <li>down Component or process is not operational</li> </ul>

- empty  
Component slot is empty
- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**neighbor-discovery****Description**

Container for the IPv6 Neighbor Discovery protocol

**Context**[interface name](#) *string* [subinterface index](#) *number* [ipv6 neighbor-discovery](#)**Tree**[neighbor-discovery](#)**Configurable**

True



**Platforms** Supported on all platforms

### **debug** *keyword*

**Description** List of events to debug

**Context** [interface name](#) *string* [subinterface index](#) *number* [ipv6 neighbor-discovery debug](#) *keyword*

**Tree** [debug](#)

**Options**

- `messages`  
Capture all neighbor-solicitation and neighbor-advertisement messages sent and received by the subinterface

**Configurable** True

**Platforms** Supported on all platforms

### **duplicate-address-detection** *boolean*

**Description** Enables Duplicate Address Detection on all tentative addresses  
This applies to link-local and global unicast addresses. Only one transmission is done; there are no retransmissions.  
Must be true on an IPv6 subinterface that has dhcp-client enabled.

**Context** [interface name](#) *string* [subinterface index](#) *number* [ipv6 neighbor-discovery duplicate-address-detection](#) *boolean*

**Tree** [duplicate-address-detection](#)

**Default** true

**Configurable** True

**Platforms** Supported on all platforms

### **evpn**

**Description** Configure which types of ARP or ND entries will be advertised in EVPN MAC/IP routes.

**Context** [interface name](#) *string* [subinterface index](#) *number* [ipv6 neighbor-discovery evpn](#)

**Tree** [evpn](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**advertise** *route-type keyword*

<b>Description</b>	Add a list entry for advertise
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <i>number</i> <a href="#">ipv6 neighbor-discovery evpn advertise route-type keyword</a>
<b>Tree</b>	<a href="#">advertise</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**route-type** *keyword*

<b>Description</b>	Controls what type of ARP or ND entries to advertise.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <i>number</i> <a href="#">ipv6 neighbor-discovery evpn advertise route-type keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**host-route**

<b>Description</b>	Configure which types of ARP or ND entries will be populated in the route-table.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <i>number</i> <a href="#">ipv6 neighbor-discovery host-route</a>
<b>Tree</b>	<a href="#">host-route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**populate** *route-type keyword*

<b>Description</b>	Enter the populate list instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <i>number</i> <a href="#">ipv6 neighbor-discovery host-route populate route-type keyword</a>
<b>Tree</b>	<a href="#">populate</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **route-type** *keyword*

<b>Description</b>	Controls what type of ARP or ND entries generate a host route.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery host-route populate route-type</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **datapath-programming** *boolean*

<b>Description</b>	When set to true, the host route is programmed in the datapath
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery host-route populate route-type</a> <i>keyword</i> <a href="#">datapath-programming</a> <i>boolean</i>
<b>Tree</b>	<a href="#">datapath-programming</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **learn-unsolicited** *keyword*

<b>Description</b>	Sets if neighbors should be learned from unsolicited neighbor advertisements for global or link local addresses or both.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery learn-unsolicited</a> <i>keyword</i>
<b>Tree</b>	<a href="#">learn-unsolicited</a>
<b>Default</b>	none
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• global</li> <li>• link-local</li> <li>• both</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### neighbor ipv6-address *string*

<b>Description</b>	List of static and dynamic ND cache entries that map an IPv6 address to a MAC address
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface index <i>number</i></a> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address <i>string</i></a>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv6-address *string*

<b>Description</b>	IPv6 address resolved by the ND cache entry To configure a static neighbor entry a value must be written into this leaf and the link-layer-address leaf.
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface index <i>number</i></a> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address <i>string</i></a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### current-state *keyword*

<b>Description</b>	The Neighbor Unreachability Detection state
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface index <i>number</i></a> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address <i>string</i></a> <a href="#">current-state <i>keyword</i></a>
<b>Tree</b>	<a href="#">current-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• incomplete</li> <li>• reachable</li> <li>• stale</li> <li>• delay</li> <li>• probe</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## datapath-programming

<b>Description</b>	Container for state related to the datapath programming of the ARP or neighbor entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <a href="#">datapath-programming</a>
<b>Tree</b>	<a href="#">datapath-programming</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-failed-complexes *string*

<b>Description</b>	List of forwarding complexes that reported a failure for the last operation. They appear in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <a href="#">datapath-programming last-failed-complexes</a> <i>string</i>
<b>Tree</b>	<a href="#">last-failed-complexes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## status *keyword*

<b>Description</b>	The status of the ARP or neighbor entry with respect to datapath programming
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <a href="#">datapath-programming status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• success All linecard complexes have reported that the entry was programmed successfully</li> <li>• failed At least one linecard complex reported that the entry was not programmed successfully or else this entry was not even provided to the datapath for programming because the system limit on the number of IPv4 ARP and IPv6 neighbor entries was exceeded</li> <li>• pending The ARP or neighbor entry was provided to the datapath for programming but at least one linecard complex has not provided a status yet.</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**is-router** *boolean*

<b>Description</b>	Indicates that the neighbor node claims to be a router (R bit in the Neighbor Advertisement message)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <b>is-router</b> <i>boolean</i>
<b>Tree</b>	<a href="#">is-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the ND cache entry To configure a static neighbor entry a value must be written into this leaf and the ipv6-address leaf.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <b>link-layer-address</b> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**next-state-time** *string*

<b>Description</b>	The date and time when the neighbor state is expected to transition to the next state
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <b>next-state-time</b> <i>string</i>
<b>Tree</b>	<a href="#">next-state-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**origin** *keyword*

<b>Description</b>	The origin of the neighbor cache entry.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• other</li> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **proxy-nd** *boolean*

<b>Description</b>	When set to true, the router replies with its own MAC to Neighbor Solicitations destined to any host.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery proxy-nd</a> <i>boolean</i>
<b>Tree</b>	<a href="#">proxy-nd</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **reachable-time** *number*

<b>Description</b>	The period of time that a dynamic IPv6 neighbor cache entry is considered reachable after a reachability confirmation event After this time expires the neighbor state moves to STALE.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery reachable-time</a> <i>number</i>
<b>Tree</b>	<a href="#">reachable-time</a>
<b>Range</b>	30 to 3600
<b>Default</b>	30
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**stale-time** *number*

<b>Description</b>	The maximum time that a dynamic IPv6 neighbor cache entry can remain in the STALE state before it is removed  This limit is reached only if no traffic is sent/queued towards the neighbor during the entire duration of the timer.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery stale-time</a> <i>number</i>
<b>Tree</b>	<a href="#">stale-time</a>
<b>Range</b>	60 to 65535
<b>Default</b>	14400
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**virtual-ipv6-discovery**

<b>Description</b>	Enable Virtual IPv6 discovery on the subinterface and configure associated parameters  When enabled, the system will attempt to discover the configured virtual IPv6 addresses on the listed bridged subinterfaces.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery</a>
<b>Tree</b>	<a href="#">virtual-ipv6-discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**address** [ipv6-address](#) *string*

<b>Description</b>	The list of virtual IPv6 addresses to be discovered on the subinterface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6



**Max. Elements** 640

### ipv6-address *string*

**Description** The virtual IPv6 address.

**Context** [interface name \*string\*](#) [subinterface index \*number\*](#) [ipv6 neighbor-discovery virtual-ipv6-discovery address \*ipv6-address string\*](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### allowed-macs *string*

**Description** List of allowed mac addresses for a discovered virtual IP address.

**Context** [interface name \*string\*](#) [subinterface index \*number\*](#) [ipv6 neighbor-discovery virtual-ipv6-discovery address \*ipv6-address string\*](#) [allowed-macs \*string\*](#)

**Tree** [allowed-macs](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**Max. Elements** 10

### probe-bridged-subinterfaces *string*

**Description** Configure the list of bridged sub-interfaces on the associated MAC-VRF to which the NS probes are sent.

**Context** [interface name \*string\*](#) [subinterface index \*number\*](#) [ipv6 neighbor-discovery virtual-ipv6-discovery address \*ipv6-address string\*](#) [probe-bridged-subinterfaces \*string\*](#)

**Tree** [probe-bridged-subinterfaces](#)

**String Length** 5 to 25

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**Max. Elements** 10

**probe-interval** *number*

<b>Description</b>	Configure the probe interval at which the system sends a Neighbor Solicitation (NS) for the virtual IPv6 address.  The default value of zero determines that the system sends a NS for the virtual IPv6 only when the address is configured. The creation of the Neighbor entry for the virtual IPv6 address will in this case rely on the server sending an unsolicited Neighbor Advertisement for the virtual IPv6 address. When the value is set to a non-zero interval, the system sends a periodic NS at the configured interval and irrespective of the Neighbor entry being already created.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">probe-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">probe-interval</a>
<b>Range</b>	0   5 to 86400
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**statistics**

<b>Description</b>	Statistics for the Virtual IP address
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**out-probe-packets** *number*

<b>Description</b>	The number of probe packets transmitted for the Virtual IP discovery.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">statistics out-probe-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-probe-packets</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## statistics

<b>Description</b>	Global statistics for Virtual IP discovery
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## out-total-probe-packets *number*

<b>Description</b>	The number of total probe packets transmitted for Virtual discovery.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery statistics out-total-probe-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-total-probe-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## router-advertisement

<b>Description</b>	Container for configuring IPv6 router discovery options
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement</a>
<b>Tree</b>	<a href="#">router-advertisement</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**debug** *keyword*

<b>Description</b>	List of events to debug
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement debug</a> <i>keyword</i>
<b>Tree</b>	<a href="#">debug</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• messages</li> </ul> <p>Capture all router-solicitation and router-advertisement messages sent and received by the subinterface</p>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**router-role**

<b>Description</b>	IPv6 router advertisement options that apply when the role of the interface is a router interface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role</a>
<b>Tree</b>	<a href="#">router-role</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the sending of router advertisements on the subinterface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**current-hop-limit** *number*

<b>Description</b>	The current hop limit to advertise in the router advertisement messages.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role current-hop-limit</a> <i>number</i>
<b>Tree</b>	<a href="#">current-hop-limit</a>
<b>Default</b>	64
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-mtu** *number*

<b>Description</b>	The IP MTU to advertise in the router advertisement messages and that hosts should associate with the link on which these messages are received. If no value is specified the option is not included.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role ip-mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">ip-mtu</a>
<b>Range</b>	1280 to 9486
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**managed-configuration-flag** *boolean*

<b>Description</b>	When this is set the M-bit is set in the router advertisement messages, indicating that hosts should use DHCPv6 to obtain IPv6 addresses.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role managed-configuration-flag</a> <i>boolean</i>
<b>Tree</b>	<a href="#">managed-configuration-flag</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-advertisement-interval** *number*

<b>Description</b>	The maximum time between sending router advertisement messages to the all-nodes multicast address.  Each subinterface has its own timer. Whenever the timer fires the message is sent and then the timer is reset to a uniformly distributed random value between min-advertisement-interval and max-advertisement-interval. The RA message can be sent before timer expiry in response to a RS message.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role max-advertisement-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">max-advertisement-interval</a>
<b>Range</b>	4 to 1800
<b>Default</b>	600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **min-advertisement-interval** *number*

<b>Description</b>	<p>The minimum time between sending router advertisement messages to the all-nodes multicast address.</p> <p>Each subinterface has its own timer. Whenever the timer fires the message is sent and then the timer is reset to a uniformly distributed random value between min-advertisement-interval and max-advertisement-interval. The RA message can be sent before timer expiry in response to a RS message.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role min-advertisement-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">min-advertisement-interval</a>
<b>Range</b>	3 to 1350
<b>Default</b>	200
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **other-configuration-flag** *boolean*

<b>Description</b>	When this is set the O-bit is set in the router advertisement messages, indicating that hosts should use DHCPv6 to obtain other configuration information (besides addresses).
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role other-configuration-flag</a> <i>boolean</i>
<b>Tree</b>	<a href="#">other-configuration-flag</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix** *ipv6-prefix string*

<b>Description</b>	The list of IPv6 prefixes to advertise in the router advertisement messages.
<b>Context</b>	<a href="#">interface name string subinterface index number ipv6 router-advertisement router-role prefix ipv6-prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	16

**ipv6-prefix** *string*

<b>Description</b>	An IPv6 global unicast address prefix.
<b>Context</b>	<a href="#">interface name string subinterface index number ipv6 router-advertisement router-role prefix ipv6-prefix string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**autonomous-flag** *boolean*

<b>Description</b>	When this is set in the prefix information option hosts can use the prefix for stateless address autoconfiguration (SLAAC).
<b>Context</b>	<a href="#">interface name string subinterface index number ipv6 router-advertisement router-role prefix ipv6-prefix string autonomous-flag boolean</a>
<b>Tree</b>	<a href="#">autonomous-flag</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**on-link-flag** *boolean*

<b>Description</b>	When this is set in the prefix information option hosts can use the prefix for on-link determination.
<b>Context</b>	<a href="#">interface name string subinterface index number ipv6 router-advertisement router-role prefix ipv6-prefix string on-link-flag boolean</a>
<b>Tree</b>	<a href="#">on-link-flag</a>
<b>Default</b>	true

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **preferred-lifetime** (*keyword* | *number*)

<b>Description</b>	The length of time in seconds (relative to the time the packet is sent) that addresses generated from the prefix via stateless address autoconfiguration remain preferred.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role prefix</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">preferred-lifetime</a> ( <i>keyword</i>   <i>number</i> )
<b>Tree</b>	<a href="#">preferred-lifetime</a>
<b>Default</b>	604800
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>infinite</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **valid-lifetime** (*keyword* | *number*)

<b>Description</b>	The length of time in seconds (relative to the time the packet is sent) that the prefix is valid for the purpose of on-link determination.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role prefix</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">valid-lifetime</a> ( <i>keyword</i>   <i>number</i> )
<b>Tree</b>	<a href="#">valid-lifetime</a>
<b>Default</b>	2592000
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>infinite</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **reachable-time** *number*

<b>Description</b>	The time, in milliseconds, that is advertised as the reachable time in RA messages and that hosts use for the ICMPv6 Neighbor Unreachability Detection algorithm. A value of zero means unspecified by this router.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role</a> <a href="#">reachable-time</a> <i>number</i>



<b>Tree</b>	<a href="#">reachable-time</a>
<b>Range</b>	0 to 3600000
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### retransmit-time *number*

<b>Description</b>	The time, in milliseconds, that is advertised as the retrans-timer in RA messages and that hosts use for address resolution and the Neighbor Unreachability Detection algorithm. It represents the time between retransmitted NS messages. A value of zero means unspecified by this router.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role retransmit-time</a> <i>number</i>
<b>Tree</b>	<a href="#">retransmit-time</a>
<b>Range</b>	0 to 1800000
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### router-lifetime *number*

<b>Description</b>	The lifetime in seconds that is advertised as the router lifetime in RA messages. This indicates the time period for which the advertising router can be used as a default router/gateway. A value of 0 means the router should not be used as a default gateway.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 router-advertisement router-role router-lifetime</a> <i>number</i>
<b>Tree</b>	<a href="#">router-lifetime</a>
<b>Range</b>	0 to 9000
<b>Default</b>	1800
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### statistics

<b>Description</b>	Container for subinterface statistics, counting IPv4 packets or IPv6 packets or both depending on the context
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-discarded-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both (transit and terminating traffic) that were dropped for any of the following reasons:  This also includes IP/MPLS packets dropped by ingress interface ACL drop action or CPM filer drop action.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics</a> <a href="#">in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-error-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both discarded due to errors, counting transit and terminating traffic  The sum of the following RFC 4293 counters: ipIfStatsInHdrErrors ipIfStatsInNoRoutes ipIfStatsInAddrErrors ipIfStatsInUnknownProtos ipIfStatsInTruncatedPkts
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics</a> <a href="#">in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-octets** *number*

<b>Description</b>	The number of octets in input IPv4 packets or IPv6 packets or both received on this subinterface and counted in in-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics</a> <a href="#">in-forwarded-octets</a> <i>number</i>

<b>Tree</b>	<a href="#">in-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-packets** *number*

<b>Description</b>	The number of input IPv4 packets or IPv6 packets or both received on this subinterface for which the router was not the final destination and for which the router attempted to find a route to forward them to that final destination.  Note that non-terminating IPv4 packets with options and non-terminating IPv6 packets with extension headers are included in this count (and not dropped) as are packets that trigger ICMP/ICMPv6 redirect messages.  On 7220 IXR systems this also counts received traffic that is terminating.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics in-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-matched-ra-packets** *number*

<b>Description</b>	The total number of IPv6 packets matched with applied RA-Guard policy
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics in-matched-ra-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-ra-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-octets** *number*

<b>Description</b>	The total number of octets received in input packets, counting transit and terminating traffic
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics in-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-octets</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-packets** *number*

<b>Description</b>	The total number of input packets received, counting transit and terminating traffic  This equals the sum of: in-error-packets in-discarded-packets (also includes IP/MPLS packets) in-terminated-packets (also includes IP/MPLS packets) in-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-terminated-octets** *number*

<b>Description</b>	The total number of octets in input IPv4 packets or IPv6 packets or both that were received on this subinterface and counted in in-terminated-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics in-terminated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-terminated-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-terminated-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both that were received on this subinterface and that have a destination IP address matching a local interface address or an IPv6 multicast address to which the interface belongs. The count includes packets eventually discarded by the CPM. Such discards include:  This also includes terminating IP/MPLS packets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics in-terminated-packets</a> <i>number</i>

<b>Tree</b>	<a href="#">in-terminated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **last-clear** *string*

<b>Description</b>	Timestamp of the last time the subinterface counters were cleared.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-discarded-packets** *number*

<b>Description</b>	The total number of IPv4 packets or IPv6 packets or both, originating and transit, sent towards this subinterface that were dropped.  This also includes IP/MPLS packets dropped by egress interface ACL drop action.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-error-packets** *number*

<b>Description</b>	The number of IPv4 packets or IPv6 packets or both, originating and transit, for which this router was successful in finding a path to their final destination through this subinterface but an error prevented their transmission.  On 7250 IXR systems this is incremented when the IPv4 packet size exceeds the IP MTU and fragmentation was not allowed or not supported
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-forwarded-octets** *number*

<b>Description</b>	The number of octets in transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-forwarded-packets** *number*

<b>Description</b>	The number of transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-octets** *number*

<b>Description</b>	The total number of octets in IPv4 packets or IPv6 packets or both delivered to the lower layers for transmission
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-originated-octets** *number*

<b>Description</b>	The number of octets in IPv4 packets or IPv6 packets or both which originated on the CPM and which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-originated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-originated-packets** *number*

<b>Description</b>	The number of IPv4 packets or IPv6 packets or both which originated on the CPM and which the router attempted to route out this subinterface This includes all originated ICMP/ICMPv6 messages.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-originated-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-packets** *number*

<b>Description</b>	The total number of IPv4 packets or IPv6 packets or both that this router supplied to the lower layers for transmission This includes packets generated locally and those forwarded by this router. If there are no queue drops it is equal to: <out-forwarded-packets> + <out-originated-packets>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 statistics out-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**l2-mtu *number***

<b>Description</b>	<p>Layer-2 MTU of the subinterface in bytes.</p> <p>Includes the Ethernet header and VLAN tags, and excludes 4-bytes FCS.</p> <p>L2 MTU specifies the maximum sized Ethernet frame that can be transmitted on the subinterface. If a frame exceeds this size it is discarded. If the l2-mtu of the subinterface exceeds the port-mtu of the associated interface, the subinterface will remain operationally down.</p> <p>The default value for a subinterface is taken from /system/mtu/default-l2-mtu. The L2 MTU is only configurable for bridged subinterfaces.</p> <p>The 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D3, 7220 IXR-H2, and 7220 IXR-H3 systems support a maximum L2 MTU of 9412 bytes and minimum of 1500 bytes.</p> <p>All other systems support a maximum L2 MTU of 9500 and minimum of 1500 bytes.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">l2-mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">l2-mtu</a>
<b>Range</b>	1450 to 9500
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-change *string***

<b>Description</b>	The date and time of the most recent change to the subinterface state
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">last-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**local-mirror-destination**

<b>Description</b>	Container for options related to local mirror destination
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">local-mirror-destination</a>
<b>Tree</b>	<a href="#">local-mirror-destination</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e



**admin-state** *keyword*

<b>Description</b>	The configurable state of the local mirror destination
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">local-mirror-destination</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**oper-state** *keyword*

<b>Description</b>	The operational state of the local mirror destination
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">local-mirror-destination</a> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> </ul>

- low-power  
Component is offline due to insufficient system power
  - degraded  
Component or process is in a degraded state
  - warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
  - waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.
- Configurable** False
- Platforms** Supported on all platforms except 7250 IXR-6e and IXR-10e

## mpls

<b>Description</b>	Container for MPLS configuration and state at the subinterface level
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls</a>
<b>Tree</b>	<a href="#">mpls</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## statistics

<b>Description</b>	Container for MPLS-specific subinterface statistics
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## in-discarded-packets *number*

<b>Description</b>	The total number of MPLS packets that were dropped because they were received with forwarded top label having an MPLS TTL value of 1
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-error-packets** *number*

<b>Description</b>	The total number of MPLS packets that were dropped because they were received with errors that include:
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-octets** *number*

<b>Description</b>	The number of octets in MPLS packets received on this subinterface that were attempted to be forwarded to another IP or MPLS interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics in-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-packets** *number*

<b>Description</b>	The number of MPLS packets received on this subinterface that were attempted to be forwarded to another IP or MPLS interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics in-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-forwarded-packets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**in-octets** *number*

<b>Description</b>	The total number of octets in input MPLS packets received, not counting MPLS packets discarded due to ACLs or IP/MPLS packets that terminated on this router.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics in-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**in-packets** *number*

<b>Description</b>	The total number of input MPLS packets received, not counting MPLS packets discarded due to ACLs or IP/MPLS packets that terminated on this router.  This equals the sum of: in-error-packets in-discarded-packets in-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the subinterface MPLS counters were cleared.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-error-packets** *number*

<b>Description</b>	The number of MPLS packets that could not be transmitted on this subinterface because of an error.  For now this only counts transmission errors that result from the MPLS packet size exceeding the MPLS MTU of the subinterface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-forwarded-octets** *number*

<b>Description</b>	The number of octets in MPLS packets transmitted on this subinterface. This does not include IP packets that resulted from a PHP pop operation.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics out-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-forwarded-packets** *number*

<b>Description</b>	The number of MPLS packets transmitted on this subinterface. This does not include IP packets that resulted from a PHP pop operation.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls statistics out-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-octets** *number*

<b>Description</b>	The total number of octets in output MPLS packets transmitted.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">mpls statistics</a> <a href="#">out-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-originated-octets** *number*

<b>Description</b>	The number of octets in MPLS packets that were originated by this router.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">mpls statistics</a> <a href="#">out-originated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-originated-packets** *number*

<b>Description</b>	The number of MPLS packets that were originated by this router.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">mpls statistics</a> <a href="#">out-originated-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **out-packets** *number*

<b>Description</b>	The total number of output MPLS packets transmitted. This equals out-originated-packets + out-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">mpls statistics</a> <a href="#">out-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mpls-mtu** *number*

<b>Description</b>	<p>MPLS MTU of the subinterface in bytes, including the transmitted label stack.</p> <p>MPLS MTU specifies the maximum sized MPLS packet that can be transmitted on the subinterface. If an MPLS packet containing any payload exceeds this size then it is dropped. If the payload of the dropped packet is IPv4 or IPv6 then this may also result in the generation of an ICMP error message that is either tunneled or sent back to the source.</p> <p>The default MPLS MTU for a subinterface is taken from /system/mtu/default-mpls-mtu.</p> <p>The MPLS MTU is not configurable for subinterfaces of loopback interfaces. Each 7250 IXR IMM supports a maximum of 4 different MPLS MTU values.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">mpls-mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">mpls-mtu</a>
<b>Range</b>	1284 to 9496
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**name** *string*

<b>Description</b>	<p>The system assigned name of the subinterface.</p> <p>It is formed by taking the base interface name and appending a dot (.) and the subinterface index number. For example, ethernet-2/1.0</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">name</a> <i>string</i>
<b>Tree</b>	<a href="#">name</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-down-reason** *keyword*

<b>Description</b>	The first (and possibly only) reason for the subinterface being operationally down
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• admin-disabled</li> <li>• port-down</li> </ul>

- ip-mtu-resource-exceeded
- mpls-mtu-resource-exceeded
- ip-mtu-too-large
- mpls-mtu-too-large
- l2-mtu-too-large
- no-ip-config
- ip-mtu-larger-than-oper-mac-vrf-mtu
- irb-mac-address-not-programmed
- missing-xdp-state
- no-underlay-egress-next-hop-resources
- other

**Configurable**

False

**Platforms**

Supported on all platforms

### **oper-state** *keyword*

**Description**

The operational state of the subinterface

**Context**

[interface name](#) *string* [subinterface](#) *index* *number* **oper-state** *keyword*

**Tree**

[oper-state](#)

**Options**

- up
- down

**Configurable**

False

**Platforms**

Supported on all platforms

### **qos**

**Description**

Enter the qos context

**Context**

[interface name](#) *string* [subinterface](#) *index* *number* **qos**

**Tree**

[qos](#)

**Configurable**

True

**Platforms**

Supported on all platforms except 7220 IXR-D1

### **input**

**Description**

Enter the input context

**Context**

[interface name](#) *string* [subinterface](#) *index* *number* **qos** **input**



<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

## classifiers

<b>Description</b>	Enter the classifiers context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">classifiers</a>
<b>Tree</b>	<a href="#">classifiers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

## default-drop-probability *keyword*

<b>Description</b>	The default drop-probability for packets arriving on this subinterface that do not match any classification rule.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">classifiers</a> <a href="#">default-drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">default-drop-probability</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## default-forwarding-class (*reference* | *keyword*)

<b>Description</b>	The default forwarding class for packets arriving on this subinterface that do not match any classification rule.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">classifiers</a> <a href="#">default-forwarding-class</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">default-forwarding-class</a>

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<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> <li>• fc5 System default forwarding-class name for the FC with index 5</li> <li>• fc6 System default forwarding-class name for the FC with index 6</li> <li>• fc7 System default forwarding-class name for the FC with index 7</li> <li>• fc8 System default forwarding-class name for the FC with index 8</li> <li>• fc9 System default forwarding-class name for the FC with index 9</li> <li>• fc10 System default forwarding-class name for the FC with index 10</li> <li>• fc11 System default forwarding-class name for the FC with index 11</li> <li>• fc12 System default forwarding-class name for the FC with index 12</li> <li>• fc13 System default forwarding-class name for the FC with index 13</li> <li>• fc14 System default forwarding-class name for the FC with index 14</li> <li>• fc15 System default forwarding-class name for the FC with index 15</li> </ul>
<b>Reference</b>	<a href="#"> qos forwarding-classes forwarding-class name </a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**dot1p-policy reference**

<b>Description</b>	Reference to the name of a dot1p mapping policy.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers dot1p-policy reference</a>
<b>Tree</b>	<a href="#">dot1p-policy</a>
<b>Reference</b>	<a href="#">qos classifiers dot1p-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**dscp-policy reference**

<b>Description</b>	Reference to the name of a DSCP mapping policy that applies to both IPv4 and IPv6 traffic.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers dscp-policy reference</a>
<b>Tree</b>	<a href="#">dscp-policy</a>
<b>Reference</b>	<a href="#">qos classifiers dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**ipv4-dscp-policy reference**

<b>Description</b>	Reference to the name of a DSCP mapping policy that applies only to IPv4 traffic.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers ipv4-dscp-policy reference</a>
<b>Tree</b>	<a href="#">ipv4-dscp-policy</a>
<b>Reference</b>	<a href="#">qos classifiers dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv6-dscp-policy reference**

<b>Description</b>	Reference to the name of a DSCP mapping policy that applies only to IPv6 traffic.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers</a> <a href="#">ipv6-dscp-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">ipv6-dscp-policy</a>
<b>Reference</b>	<a href="#">qos classifiers</a> <a href="#">dscp-policy</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **mpls-traffic-class-policy** *reference*

<b>Description</b>	Reference to the name of an MPLS traffic-class mapping policy
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers</a> <a href="#">mpls-traffic-class-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">mpls-traffic-class-policy</a>
<b>Reference</b>	<a href="#">qos classifiers</a> <a href="#">mpls-traffic-class-policy</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **multifield**

<b>Description</b>	Enter the multifield context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers</a> <a href="#">multifield</a>
<b>Tree</b>	<a href="#">multifield</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **ipv4-policy** *reference*

<b>Description</b>	Reference to the name of an IPv4 multifield classifier policy.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers</a> <a href="#">multifield</a> <a href="#">ipv4-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">ipv4-policy</a>
<b>Reference</b>	<a href="#">qos classifiers</a> <a href="#">multifield</a> <a href="#">ipv4-policy</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**ipv6-policy** *reference*

<b>Description</b>	Reference to the name of an IPv6 multifield classifier policy.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input classifiers multifield ipv6-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">ipv6-policy</a>
<b>Reference</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**policer-templates**

<b>Description</b>	acl policers
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates</a>
<b>Tree</b>	<a href="#">policer-templates</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**policer** [sequence-id](#) *number*

<b>Description</b>	The list of policer instances belonging to the template definition.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i>
<b>Tree</b>	<a href="#">policer</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	Policer sequence-id
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i>
<b>Range</b>	1 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**committed-burst-size** *number*

<b>Description</b>	The actual/operational maximum CIR bucket depth in bytes as it is programmed into hardware.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <b>committed-burst-size</b> <i>number</i>
<b>Tree</b>	<a href="#">committed-burst-size</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**committed-rate-kbps** *number*

<b>Description</b>	The actual/operational committed information rate (CIR) of the policer as it is programmed into hardware.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <b>committed-rate-kbps</b> <i>number</i>
<b>Tree</b>	<a href="#">committed-rate-kbps</a>
<b>Units</b>	kbps
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**maximum-burst-size** *number*

<b>Description</b>	The actual/operational maximum PIR bucket depth in bytes as it is programmed into hardware.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <b>maximum-burst-size</b> <i>number</i>
<b>Tree</b>	<a href="#">maximum-burst-size</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**peak-rate-kbps** *number*

<b>Description</b>	The actual/operational peak information rate (PIR) of the policer as it is programmed into hardware.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">peak-rate-kbps</a> <i>number</i>
<b>Tree</b>	<a href="#">peak-rate-kbps</a>
<b>Units</b>	kbps
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## accepted-octets *number*

<b>Description</b>	The number of octets in packets that were accepted by the policer, counting all drop-probabilities at policer output Not available in forwarding-focus mode
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics accepted-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">accepted-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## accepted-packets *number*

<b>Description</b>	The number of packets that were accepted by the policer, counting all drop-probabilities at policer output Not available in forwarding-focus mode
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics accepted-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">accepted-packets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **committed-octets** *number*

<b>Description</b>	The number of octets in packets that were accepted with low drop-probability at policer output Not available in violating-focus mode
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics committed-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">committed-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **committed-packets** *number*

<b>Description</b>	The number of packets that were accepted with low drop-probability at policer output Not available in violating-focus mode
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics committed-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">committed-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **exceeding-octets** *number*

<b>Description</b>	The number of octets in packets that were accepted with medium drop-probability at policer output Not available in violating-focus mode
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics exceeding-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">exceeding-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### **exceeding-packets** *number*

**Description** The number of packets that were accepted with medium drop-probability at policer output  
Not available in violating-focus mode

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [qos input policer-templates](#) [policer sequence-id](#) *number* [statistics exceeding-packets](#) *number*

**Tree** [exceeding-packets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **last-clear** *string*

**Description** Time of the last clear command performed by the user at this level

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [qos input policer-templates](#) [policer sequence-id](#) *number* [statistics last-clear](#) *string*

**Tree** [last-clear](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **violating-octets** *number*

**Description** The number of octets in packets that were considered violating by the policer  
Not available in forwarding-focus mode

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [qos input policer-templates](#) [policer sequence-id](#) *number* [statistics violating-octets](#) *number*

**Tree** [violating-octets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

**violating-packets** *number*

<b>Description</b>	The number of packets that were considered violating by the policer Not available in forwarding-focus mode
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer sequence-id</a> <i>number</i> <a href="#">statistics violating-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">violating-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**policer-template** *reference*

<b>Description</b>	The name of the policer template applied to input traffic on the subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos input policer-templates policer-template</a> <i>reference</i>
<b>Tree</b>	<a href="#">policer-template</a>
<b>Reference</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**output**

<b>Description</b>	Enter the output context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output</a>
<b>Tree</b>	<a href="#">output</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**rewrite-rules**

<b>Description</b>	Enter the rewrite-rules context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output rewrite-rules</a>
<b>Tree</b>	<a href="#">rewrite-rules</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**dot1p-policy reference**

<b>Description</b>	Reference to the name of a dot1p rewrite policy.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output rewrite-rules dot1p-policy reference</a>
<b>Tree</b>	<a href="#">dot1p-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules dot1p-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**dscp-policy reference**

<b>Description</b>	Reference to the name of a DSCP rewrite-rule policy that applies to both IPv4 and IPv6 traffic.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output rewrite-rules dscp-policy reference</a>
<b>Tree</b>	<a href="#">dscp-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**ipv4-dscp-policy reference**

<b>Description</b>	Reference to the name of a DSCP rewrite-rule policy that applies only to IPv4 traffic.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output rewrite-rules ipv4-dscp-policy reference</a>
<b>Tree</b>	<a href="#">ipv4-dscp-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv6-dscp-policy reference**

<b>Description</b>	Reference to the name of a DSCP rewrite-rule policy that applies only to IPv6 traffic.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output rewrite-rules ipv6-dscp-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">ipv6-dscp-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **mpls-traffic-class-policy** *reference*

<b>Description</b>	Reference to the name of an MPLS traffic-class rewrite-rule policy.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">qos output rewrite-rules mpls-traffic-class-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">mpls-traffic-class-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **ra-guard**

<b>Description</b>	Enable the ra-guard context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ra-guard</a>
<b>Tree</b>	<a href="#">ra-guard</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **policy** *reference*

<b>Description</b>	Reference to RA Guard Policy to apply to the associated subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ra-guard policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">policy</a>
<b>Reference</b>	<a href="#">system ra-guard-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**vlan-list** *vlan-id number*

<b>Description</b>	List of VLAN IDs that the RA policy should be matched against
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ra-guard</a> <a href="#">vlan-list</a> <a href="#">vlan-id</a> <i>number</i>
<b>Tree</b>	<a href="#">vlan-list</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**vlan-id** *number*

<b>Description</b>	Enter the vlan-id context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ra-guard</a> <a href="#">vlan-list</a> <a href="#">vlan-id</a> <i>number</i>
<b>Range</b>	0 to 4095
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**statistics**

<b>Description</b>	Container for subinterface statistics, counting IPv4 packets or IPv6 packets or both depending on the context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-discarded-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both (transit and terminating traffic) that were dropped for any of the following reasons:  This also includes IP/MPLS packets dropped by ingress interface ACL drop action or CPM filer drop action.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics</a> <a href="#">in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-error-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both discarded due to errors, counting transit and terminating traffic  The sum of the following RFC 4293 counters: ipIfStatsInHdrErrors ipIfStatsInNoRoutes ipIfStatsInAddrErrors ipIfStatsInUnknownProtos ipIfStatsInTruncatedPkts
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **in-forwarded-octets** *number*

<b>Description</b>	The number of octets in input IPv4 packets or IPv6 packets or both received on this subinterface and counted in in-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics in-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-forwarded-packets** *number*

<b>Description</b>	The number of input IPv4 packets or IPv6 packets or both received on this subinterface for which the router was not the final destination and for which the router attempted to find a route to forward them to that final destination.  Note that non-terminating IPv4 packets with options and non-terminating IPv6 packets with extension headers are included in this count (and not dropped) as are packets that trigger ICMP/ICMPv6 redirect messages.  On 7220 IXR systems this also counts received traffic that is terminating.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics in-forwarded-packets</a> <i>number</i>

<b>Tree</b>	<a href="#">in-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-matched-ra-packets** *number*

<b>Description</b>	The total number of IPv6 packets matched with applied RA-Guard policy
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics in-matched-ra-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-matched-ra-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-octets** *number*

<b>Description</b>	The total number of octets received in input packets, counting transit and terminating traffic
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics in-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-packets** *number*

<b>Description</b>	The total number of input packets received, counting transit and terminating traffic  This equals the sum of: in-error-packets in-discarded-packets (also includes IP/MPLS packets) in-terminated-packets (also includes IP/MPLS packets) in-forwarded-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-terminated-octets** *number*

<b>Description</b>	The total number of octets in input IPv4 packets or IPv6 packets or both that were received on this subinterface and counted in in-terminated-packets
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">statistics in-terminated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-terminated-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**in-terminated-packets** *number*

<b>Description</b>	The total number of input IPv4 packets or IPv6 packets or both that were received on this subinterface and that have a destination IP address matching a local interface address or an IPv6 multicast address to which the interface belongs. The count includes packets eventually discarded by the CPM. Such discards include:  This also includes terminating IP/MPLS packets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">statistics in-terminated-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-terminated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the subinterface counters were cleared.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">statistics last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**out-discarded-packets** *number*

<b>Description</b>	The total number of IPv4 packets or IPv6 packets or both, originating and transit, sent towards this subinterface that were dropped.  This also includes IP/MPLS packets dropped by egress interface ACL drop action.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-error-packets** *number*

<b>Description</b>	The number of IPv4 packets or IPv6 packets or both, originating and transit, for which this router was successful in finding a path to their final destination through this subinterface but an error prevented their transmission.  On 7250 IXR systems this is incremented when the IPv4 packet size exceeds the IP MTU and fragmentation was not allowed or not supported
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**out-forwarded-octets** *number*

<b>Description</b>	The number of octets in transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-forwarded-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-forwarded-packets** *number*

<b>Description</b>	The number of transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-forwarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-forwarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-octets** *number*

<b>Description</b>	The total number of octets in IPv4 packets or IPv6 packets or both delivered to the lower layers for transmission
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-originated-octets** *number*

<b>Description</b>	The number of octets in IPv4 packets or IPv6 packets or both which originated on the CPM and which the router attempted to route out this subinterface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-originated-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-originated-packets** *number*

<b>Description</b>	The number of IPv4 packets or IPv6 packets or both which originated on the CPM and which the router attempted to route out this subinterface  This includes all originated ICMP/ICMPv6 messages.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-originated-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-originated-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-packets** *number*

<b>Description</b>	<p>The total number of IPv4 packets or IPv6 packets or both that this router supplied to the lower layers for transmission</p> <p>This includes packets generated locally and those forwarded by this router. If there are no queue drops it is equal to: &lt;out-forwarded-packets&gt; + &lt;out-originated-packets&gt;</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">statistics out-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **type** *identityref*

<b>Description</b>	Indicates the context in which the ethernet subinterface will be used
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>routed</code> Indicates subinterface is used in a routed context</li> <li>• <code>bridged</code> Indicates subinterface is used in a bridged context</li> <li>• <code>local-mirror-dest</code> Indicates subinterface is used in a mirroring destination SPAN context</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## vlan

<b>Description</b>	Parameters for VLAN definition under SRL interfaces.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">vlan</a>
<b>Tree</b>	<a href="#">vlan</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## encap

<b>Description</b>	VLAN match parameters for the associated subinterface.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">vlan</a> <a href="#">encap</a>
<b>Tree</b>	<a href="#">encap</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## single-tagged

<b>Description</b>	When present, tagged frames with a specific, non-zero, outer VLAN ID are associated to the subinterface. (The outer VLAN-ID tag is considered service delimiting and it is stripped at ingress and restored/added on egress.).
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">vlan</a> <a href="#">encap</a> <a href="#">single-tagged</a>
<b>Tree</b>	<a href="#">single-tagged</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## vlan-id (*number* | *keyword*)

<b>Description</b>	VLAN identifier for single-tagged packets.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">vlan</a> <a href="#">encap</a> <a href="#">single-tagged</a> <a href="#">vlan-id</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">vlan-id</a>
<b>Range</b>	1 to 4094
<b>Options</b>	<ul style="list-style-type: none"> <li>any</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## single-tagged-range

<b>Description</b>	When present, tagged frames with a specific, non-zero, outer VLAN ID contained in a specified set of range are associated to the subinterface.  The outer VLAN ID tag of the frame is not stripped off on ingress, and no tag is pushed on egress.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">vlan encap single-tagged-range</a>
<b>Tree</b>	<a href="#">single-tagged-range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## low-vlan-id [range-low-vlan-id](#) *number*

<b>Description</b>	Enter the low-vlan-id list instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">vlan encap single-tagged-range low-vlan-id range-low-vlan-id</a> <i>number</i>
<b>Tree</b>	<a href="#">low-vlan-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2
<b>Max. Elements</b>	8
<b>Min. Elements</b>	1

## [range-low-vlan-id](#) *number*

<b>Description</b>	The low-value VLAN identifier in a range for single-tagged packets. The range is matched inclusively.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">vlan encap single-tagged-range low-vlan-id range-low-vlan-id</a> <i>number</i>
<b>Range</b>	1 to 4094
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**high-vlan-id** *number*

<b>Description</b>	The high-value VLAN identifier in a range for single-tagged packets. The range is matched inclusively.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">vlan encap single-tagged-range low-vlan-id range-low-vlan-id</a> <i>number</i> <a href="#">high-vlan-id</a> <i>number</i>
<b>Tree</b>	<a href="#">high-vlan-id</a>
<b>Range</b>	1 to 4094
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**untagged**

<b>Description</b>	When present, untagged frames and VLAN ID 0 priority tagged frames are associated to the subinterface when it belongs to an interface with vlan-tagging enabled.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">vlan encap untagged</a>
<b>Tree</b>	<a href="#">untagged</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**tpid** *identityref*

<b>Description</b>	Optionally set the tag protocol identifier field (TPID) that is accepted on the VLAN
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">tpid identityref</a>
<b>Tree</b>	<a href="#">tpid</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">TPID_0X8100</a> Default TPID value for 802.1q single-tagged VLANs.</li> <li>• <a href="#">TPID_0X88A8</a> TPID value for 802.1ad provider bridging, QinQ or stacked VLANs.</li> <li>• <a href="#">TPID_0X9100</a> Alternate TPID value.</li> <li>• <a href="#">TPID_0X9200</a> Alternate TPID value.</li> <li>• <a href="#">TPID_ANY</a></li> </ul>

A wildcard that matches any of the generally used TPID values for singly- or multiply-tagged VLANs. Equivalent to matching any of TPID\_0X8100, TPID\_0X88A8, TPID\_0X9100 and TPID\_0x9200. This value is only applicable where the TPID of a packet is being matched.

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3

## traffic-rate

<b>Description</b>	Container for traffic rate statistics
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">traffic-rate</a>
<b>Tree</b>	<a href="#">traffic-rate</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## in-bps *number*

<b>Description</b>	The ingress bandwidth utilization of the port
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">traffic-rate</a> <a href="#">in-bps</a> <i>number</i>
<b>Tree</b>	<a href="#">in-bps</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## out-bps *number*

<b>Description</b>	The egress bandwidth utilization of the port
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">traffic-rate</a> <a href="#">out-bps</a> <i>number</i>
<b>Tree</b>	<a href="#">out-bps</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## transceiver

<b>Description</b>	Enter the transceiver context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a>
<b>Tree</b>	<a href="#">transceiver</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### channel *index number*

<b>Description</b>	List of physical channels supported by the transceiver associated with this port
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index number</a>
<b>Tree</b>	<a href="#">channel</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### *index number*

<b>Description</b>	Index of the physical channel or lane
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index number</a>
<b>Range</b>	1 to 10
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### input-power

<b>Description</b>	Enter the input-power context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index number</a> <a href="#">input-power</a>
<b>Tree</b>	<a href="#">input-power</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-alarm-condition *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the Rx power is above the high-alarm-threshold and set to false whenever the Rx power is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index number</a> <a href="#">input-power high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### **high-alarm-threshold** *decimal-number*

**Description** High alarm threshold.  
Read from the installed transceiver

**Context** [interface name](#) *string* [transceiver channel index](#) *number* [input-power high-alarm-threshold](#) *decimal-number*

**Tree** [high-alarm-threshold](#)

**Configurable** False

**Platforms** Supported on all platforms

### **high-warning-condition** *boolean*

**Description** High warning threshold condition.  
Set to true whenever the Rx power is above the high-warning-threshold and set to false whenever the Rx power is below the high-warning-threshold

**Context** [interface name](#) *string* [transceiver channel index](#) *number* [input-power high-warning-condition](#) *boolean*

**Tree** [high-warning-condition](#)

**Configurable** False

**Platforms** Supported on all platforms

### **high-warning-threshold** *decimal-number*

**Description** High warning threshold.  
Read from the installed transceiver

**Context** [interface name](#) *string* [transceiver channel index](#) *number* [input-power high-warning-threshold](#) *decimal-number*

**Tree** [high-warning-threshold](#)

**Configurable** False

**Platforms** Supported on all platforms

### **latest-value** *decimal-number*

**Description** The current value of the optical Rx power in dBm

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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">input-power latest-value</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">latest-value</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-condition** *boolean*

<b>Description</b>	Low alarm threshold condition. Set to true whenever the Rx power is below the low-alarm-threshold and set to false whenever the Rx power is above the low-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">input-power low-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-threshold** *decimal-number*

<b>Description</b>	Low alarm threshold condition. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">input-power low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the Rx power is below the low-warning-threshold and set to false whenever the Rx power is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">input-power low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">input-power low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**laser-bias-current**

<b>Description</b>	Enter the laser-bias-current context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a>
<b>Tree</b>	<a href="#">laser-bias-current</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-alarm-condition** *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the laser bias current is above the high-alarm-threshold and set to false whenever the laser bias current is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a> <a href="#">high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-alarm-threshold** *decimal-number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a> <a href="#">high-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-warning-condition *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the laser bias current is above the high-warning-threshold and set to false whenever the laser bias current is below the high-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-warning-threshold *decimal-number*

<b>Description</b>	High warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current high-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### latest-value *decimal-number*

<b>Description</b>	The current value of the laser bias current in mA
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current latest-value</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">latest-value</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### low-alarm-condition *boolean*

<b>Description</b>	Low alarm threshold condition.
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Set to true whenever the laser bias current is below the low-alarm-threshold and set to false whenever the laser bias current is above the low-alarm-threshold

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a> <a href="#">low-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-threshold** *decimal-number*

<b>Description</b>	Low alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a> <a href="#">low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the laser bias current is below the low-warning-threshold and set to false whenever the laser bias current is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a> <a href="#">low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">laser-bias-current</a> <a href="#">low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### output-power

<b>Description</b>	Enter the output-power context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power</a>
<b>Tree</b>	<a href="#">output-power</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-alarm-condition *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the Tx power is above the high-alarm-threshold and set to false whenever the Tx power is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power</a> <a href="#">high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-alarm-threshold *decimal-number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power</a> <a href="#">high-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-warning-condition *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the Tx power is above the high-warning-threshold and set to false whenever the Tx power is below the high-warning-threshold
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **high-warning-threshold** *decimal-number*

<b>Description</b>	High warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power high-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **latest-value** *decimal-number*

<b>Description</b>	The current value of the optical Tx power in dBm
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power latest-value</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">latest-value</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-condition** *boolean*

<b>Description</b>	Low alarm threshold condition. Set to true whenever the Tx power is below the low-alarm-threshold and set to false whenever the Tx power is above the low-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power low-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**low-alarm-threshold** *decimal-number*

<b>Description</b>	Low alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the Tx power is below the low-warning-threshold and set to false whenever the Tx power is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">output-power low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**wavelength** *decimal-number*

<b>Description</b>	Wavelength of the transmitting laser in nanometers
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver channel index</a> <i>number</i> <a href="#">wavelength</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">wavelength</a>
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### **connector-type** *keyword*

**Description** Specifies the fiber connector type of the transceiver associated with the port.

**Context** [interface name](#) *string* [transceiver connector-type](#) *keyword*

**Tree** [connector-type](#)

**Options**

- SC
- FC-STYLE1-COPPER
- FC-STYLE2-COPPER
- BNC-OR-TNC
- FC-COAX
- FIBER-JACK
- LC
- MT-RJ
- MU
- SG
- OPTICAL-PIGTAIL
- MPO-1x12
- MPO-2x16
- HSSDC
- COPPER-PIGTAIL
- RJ45
- no-separable-connector
- MXC-2x16
- CS-OPTICAL-CONNECTOR
- SN-OPTICAL-CONNECTOR
- MPO-2x12
- MPO-1x16
- unknown

**Configurable** False

**Platforms** Supported on all platforms

### **date-code** *string*

**Description** Transceiver date code.

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">date-code</a> <i>string</i>
<b>Tree</b>	<a href="#">date-code</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ddm-events** *boolean*

<b>Description</b>	Controls the reporting of DDM events.  When set to true, log events and state related to the Digital Diagnostic Monitoring (DDM) capabilities of the transceiver are generated and populated.  When set to false, no DDM-related log events and state are generated and populated for this port/transceiver.  When read from state this leaf always returns false (even if the configured value is true) when the Ethernet port is a copper/RJ45 port.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">ddm-events</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ddm-events</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ethernet-pmd** *string*

<b>Description</b>	Specifies the Ethernet compliance code of the transceiver associated with the port.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">ethernet-pmd</a> <i>string</i>
<b>Tree</b>	<a href="#">ethernet-pmd</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fault-condition** *boolean*

<b>Description</b>	Indicates if a fault condition exists in the transceiver.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">fault-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">fault-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**form-factor** *keyword*

<b>Description</b>	Specifies the transceiver form factor associated with the port.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">form-factor</a> <i>keyword</i>
<b>Tree</b>	<a href="#">form-factor</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• CFP2</li> <li>• CFP2-ACO</li> <li>• CFP4</li> <li>• QSFP</li> <li>• QSFPplus</li> <li>• QSFP28</li> <li>• QSFPDD</li> <li>• SFP</li> <li>• SFPplus</li> <li>• Non-pluggable</li> <li>• Other</li> <li>• SFP28</li> <li>• SFPDD</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**forward-error-correction** *keyword*

<b>Description</b>	<p>The forward error correction algorithm to use on the optical channel.</p> <p>The same FEC algorithm must be used at both ends of a link.</p> <p>25G interfaces support disabled, base-r rs-108 and rs-528; configuring other (incompatible) options will bring the port down. The FEC requirement for a 25G interface depends on the cable type. A CA-N DAC cable has a loss specification that requires no FEC. A CA-S DAC cable requires base-r FEC at a minimum. A CA-L DAC cable requires the stronger rs-108 Reed Solomon FEC.</p> <p>100G interfaces support disabled and rs-528; configuring other (incompatible) options will bring the port down.</p> <p>400G interfaces require rs-544; configuring other (unsupported) options will bring the port down.</p>
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">forward-error-correction</a> <i>keyword</i>
<b>Tree</b>	<a href="#">forward-error-correction</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• disabled</li> </ul>

- rs-528
- rs-544
- base-r  
BASE-R FEC algorithm for 25GbE interfaces (also known as fire-code).
- rs-108  
Reed Solomon FEC algorithm for 25GbE interfaces.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## input-power

<b>Description</b>	Enter the input-power context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">input-power</a>
<b>Tree</b>	<a href="#">input-power</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## high-alarm-condition *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the Rx power is above the high-alarm-threshold and set to false whenever the Rx power is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">input-power</a> <a href="#">high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## high-alarm-threshold *decimal-number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">input-power</a> <a href="#">high-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-condition** *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the Rx power is above the high-warning-threshold and set to false whenever the Rx power is below the high-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-threshold** *decimal-number*

<b>Description</b>	High warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power high-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**latest-value** *decimal-number*

<b>Description</b>	The current value of the optical Rx power in dBm
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power latest-value</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">latest-value</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**low-alarm-condition** *boolean*

<b>Description</b>	Low alarm threshold condition. Set to true whenever the Rx power is below the low-alarm-threshold and set to false whenever the Rx power is above the low-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power low-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-alarm-condition</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-threshold** *decimal-number*

<b>Description</b>	Low alarm threshold condition. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power</a> <a href="#">low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the Rx power is below the low-warning-threshold and set to false whenever the Rx power is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power</a> <a href="#">low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver input-power</a> <a href="#">low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **laser-bias-current**

<b>Description</b>	Enter the laser-bias-current context
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a>
<b>Tree</b>	<a href="#">laser-bias-current</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-alarm-condition *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the laser bias current is above the high-alarm-threshold and set to false whenever the laser bias current is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a> <a href="#">high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-alarm-threshold *decimal-number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a> <a href="#">high-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high-warning-condition *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the laser bias current is above the high-warning-threshold and set to false whenever the laser bias current is below the high-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a> <a href="#">high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### high-warning-threshold *decimal-number*

**Description** High warning threshold.  
Read from the installed transceiver

**Context** [interface name](#) *string* [transceiver](#) [laser-bias-current](#) [high-warning-threshold](#) *decimal-number*

**Tree** [high-warning-threshold](#)

**Configurable** False

**Platforms** Supported on all platforms

### latest-value *decimal-number*

**Description** The current value of the laser bias current in mA

**Context** [interface name](#) *string* [transceiver](#) [laser-bias-current](#) [latest-value](#) *decimal-number*

**Tree** [latest-value](#)

**Configurable** False

**Platforms** Supported on all platforms

### low-alarm-condition *boolean*

**Description** Low alarm threshold condition.  
Set to true whenever the laser bias current is below the low-alarm-threshold and set to false whenever the laser bias current is above the low-alarm-threshold

**Context** [interface name](#) *string* [transceiver](#) [laser-bias-current](#) [low-alarm-condition](#) *boolean*

**Tree** [low-alarm-condition](#)

**Configurable** False

**Platforms** Supported on all platforms

### low-alarm-threshold *decimal-number*

**Description** Low alarm threshold.  
Read from the installed transceiver



<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a> <a href="#">low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the laser bias current is below the low-warning-threshold and set to false whenever the laser bias current is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a> <a href="#">low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">laser-bias-current</a> <a href="#">low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-down-reason** *keyword*

<b>Description</b>	The reason for the transceiver being operationally down.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• not-present</li> <li>• read-failure</li> <li>• checksum-failure</li> <li>• unknown-transceiver</li> </ul>

- tx-laser-disabled
- unsupported-breakout
- port-disabled
- connector-transceiver-down

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of the transceiver. The oper-state is always down when the Ethernet port is a copper/RJ45 port.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up</li> <li>• down</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **output-power**

<b>Description</b>	Enter the output-power context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver output-power</a>
<b>Tree</b>	<a href="#">output-power</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **high-alarm-condition** *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the Tx power is above the high-alarm-threshold and set to false whenever the Tx power is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver output-power high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-alarm-threshold** *decimal-number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">output-power</a> <a href="#">high-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-condition** *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the Tx power is above the high-warning-threshold and set to false whenever the Tx power is below the high-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">output-power</a> <a href="#">high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-threshold** *decimal-number*

<b>Description</b>	High warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">output-power</a> <a href="#">high-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**latest-value** *decimal-number*

<b>Description</b>	The current value of the optical Tx power in dBm
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">output-power</a> <a href="#">latest-value</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">latest-value</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-condition** *boolean*

<b>Description</b>	Low alarm threshold condition. Set to true whenever the Tx power is below the low-alarm-threshold and set to false whenever the Tx power is above the low-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver output-power low-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-threshold** *decimal-number*

<b>Description</b>	Low alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver output-power low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the Tx power is below the low-warning-threshold and set to false whenever the Tx power is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver output-power low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold.
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	Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">output-power</a> <a href="#">low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **serial-number** *string*

<b>Description</b>	Transceiver serial number. This is the information as read from the EEPROM of the part.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">serial-number</a> <i>string</i>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **temperature**

<b>Description</b>	Enter the temperature context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">temperature</a>
<b>Tree</b>	<a href="#">temperature</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **high-alarm-condition** *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the temperature is above the high-alarm-threshold and set to false whenever the temperature is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">temperature</a> <a href="#">high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-alarm-threshold** *number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver temperature high-alarm-threshold</a> <i>number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-condition** *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the temperature is above the high-warning-threshold and set to false whenever the temperature is below the high-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver temperature high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-threshold** *number*

<b>Description</b>	High warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver temperature high-warning-threshold</a> <i>number</i>
<b>Tree</b>	<a href="#">high-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**latest-value** *number*

<b>Description</b>	The current temperature of the transceiver module in degrees Celsius.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver temperature latest-value</a> <i>number</i>
<b>Tree</b>	<a href="#">latest-value</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### low-alarm-condition *boolean*

**Description** Low alarm threshold condition.  
Set to true whenever the temperature is below the low-alarm-threshold and set to false whenever the temperature is above the low-alarm-threshold

**Context** [interface name](#) *string* [transceiver temperature](#) [low-alarm-condition](#) *boolean*

**Tree** [low-alarm-condition](#)

**Configurable** False

**Platforms** Supported on all platforms

### low-alarm-threshold *number*

**Description** Low alarm threshold.  
Read from the installed transceiver

**Context** [interface name](#) *string* [transceiver temperature](#) [low-alarm-threshold](#) *number*

**Tree** [low-alarm-threshold](#)

**Configurable** False

**Platforms** Supported on all platforms

### low-warning-condition *boolean*

**Description** Low warning threshold condition.  
Set to true whenever the temperature is below the low-warning-threshold and set to false whenever the temperature is above the low-warning-threshold

**Context** [interface name](#) *string* [transceiver temperature](#) [low-warning-condition](#) *boolean*

**Tree** [low-warning-condition](#)

**Configurable** False

**Platforms** Supported on all platforms

### low-warning-threshold *number*

**Description** Low warning threshold.  
Read from the installed transceiver

---

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver temperature low-warning-threshold</a> <i>number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tx-laser** *boolean*

<b>Description</b>	Enable (true) or disable (false) the transmit laser of the transceiver. When read from state this leaf always returns false (even if the configured value is true) when the Ethernet port is a copper/RJ45 port. Default is true (for interfaces that support transceivers).
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver tx-laser</a> <i>boolean</i>
<b>Tree</b>	<a href="#">tx-laser</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**vendor** *string*

<b>Description</b>	Name of the transceiver vendor. This is the information as read from the EEPROM of the part.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver vendor</a> <i>string</i>
<b>Tree</b>	<a href="#">vendor</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vendor-part-number** *string*

<b>Description</b>	Vendor's part number for the transceiver. This is the information as read from the EEPROM of the part.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver vendor-part-number</a> <i>string</i>
<b>Tree</b>	<a href="#">vendor-part-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**vendor-revision** *string*

<b>Description</b>	Vendor's revision number for the transceiver. This is the information as read from the EEPROM of the part.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">vendor-revision</a> <i>string</i>
<b>Tree</b>	<a href="#">vendor-revision</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**voltage**

<b>Description</b>	Enter the voltage context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">voltage</a>
<b>Tree</b>	<a href="#">voltage</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-alarm-condition** *boolean*

<b>Description</b>	High alarm threshold condition. Set to true whenever the module voltage is above the high-alarm-threshold and set to false whenever the module voltage is below the high-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">voltage</a> <a href="#">high-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-alarm-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-alarm-threshold** *decimal-number*

<b>Description</b>	High alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver</a> <a href="#">voltage</a> <a href="#">high-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-condition** *boolean*

<b>Description</b>	High warning threshold condition. Set to true whenever the module voltage is above the high-warning-threshold and set to false whenever the module voltage is below the high-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">high-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">high-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**high-warning-threshold** *decimal-number*

<b>Description</b>	High warning threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">high-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">high-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**latest-value** *decimal-number*

<b>Description</b>	The current voltage reading of the transceiver module (in Volts)
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">latest-value</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">latest-value</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**low-alarm-condition** *boolean*

<b>Description</b>	Low alarm threshold condition. Set to true whenever the module voltage is below the low-alarm-threshold and set to false whenever the module voltage is above the low-alarm-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">low-alarm-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-alarm-condition</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-alarm-threshold** *decimal-number*

<b>Description</b>	Low alarm threshold. Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">low-alarm-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-alarm-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-condition** *boolean*

<b>Description</b>	Low warning threshold condition. Set to true whenever the module voltage is below the low-warning-threshold and set to false whenever the module voltage is above the low-warning-threshold
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">low-warning-condition</a> <i>boolean</i>
<b>Tree</b>	<a href="#">low-warning-condition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **low-warning-threshold** *decimal-number*

<b>Description</b>	Low warning threshold . Read from the installed transceiver
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver voltage</a> <a href="#">low-warning-threshold</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">low-warning-threshold</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **wavelength** *decimal-number*

<b>Description</b>	Wavelength of the transmitting laser in nanometers.
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<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">transceiver wavelength</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">wavelength</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vlan-tagging** *boolean*

<b>Description</b>	When set to true the interface is allowed to accept frames with one or more VLAN tags
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">vlan-tagging</a> <i>boolean</i>
<b>Tree</b>	<a href="#">vlan-tagging</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 6 network-instance

```

network-instance name string
+ admin-state keyword
+ aggregate-routes
  + route prefix (ipv4-prefix | ipv6-prefix)
    + admin-state keyword
    + aggregator
      + address string
      + as-number number
    + communities
      + add (bgp-std-community-type | bgp-std-community-regexp-type | identityref | bgp-
large-community-type | bgp-large-community-regexp-type)
    + generate-icmp boolean
    - installed boolean
    + summary-only boolean
- bgp-rib
  - afi-safi afi-safi-name identityref
  - ipv4-unicast
    - local-rib
      - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) origin-protocol identityref path-id number
        - attr-id reference
        - best-route boolean
        - group-best boolean
        - invalid-reason
          - as-loop boolean
          - cluster-loop boolean
          - next-hop-unresolved boolean
          - rejected-route boolean
        - last-modified string
        - neighbor-as number
        - pending-delete boolean
        - stale-route boolean
        - tie-break-reason keyword
        - used-route boolean
        - valid-route boolean
    - rib-in-out
      - rib-in-post
        - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
          - attr-id reference
          - best-route boolean
          - group-best boolean
          - invalid-reason
            - as-loop boolean
            - cluster-loop boolean
            - next-hop-unresolved boolean
            - rejected-route boolean
          - last-modified string
          - neighbor-as number
          - pending-delete boolean
          - stale-route boolean
          - tie-break-reason keyword
          - used-route boolean
          - valid-route boolean
      - rib-in-pre

```

```

- routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
  - attr-id reference
- rib-out-post
  - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
  - attr-id reference
- ipv6-unicast
- local-rib
  - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) origin-protocol identityref path-id number
  - attr-id reference
  - best-route boolean
  - group-best boolean
  - invalid-reason
    - as-loop boolean
    - cluster-loop boolean
    - next-hop-unresolved boolean
    - rejected-route boolean
  - last-modified string
  - neighbor-as number
  - pending-delete boolean
  - stale-route boolean
  - tie-break-reason keyword
  - used-route boolean
  - valid-route boolean
- rib-in-out
  - rib-in-post
    - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
    - attr-id reference
    - best-route boolean
    - group-best boolean
    - invalid-reason
      - as-loop boolean
      - cluster-loop boolean
      - next-hop-unresolved boolean
      - rejected-route boolean
    - last-modified string
    - neighbor-as number
    - pending-delete boolean
    - stale-route boolean
    - tie-break-reason keyword
    - used-route boolean
    - valid-route boolean
  - rib-in-pre
    - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
    - attr-id reference
  - rib-out-post
    - routes prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
    - attr-id reference
- attr-sets
  - attr-set index number
  - aggregator
    - address (ipv4-address | ipv6-address)
    - as-number number
  - aigp number
  - as-path
    - segment as-path-index number
      - member number
      - type keyword
  - atomic-aggregate boolean

```

```

- cluster-list (ipv4-address | ipv6-address)
- communities
  - community string
  - ext-community string
  - large-community string
- local-pref number
- med number
- next-hop (ipv4-address-with-zone | ipv6-address-with-zone)
- origin keyword
- originator-id (ipv4-address | ipv6-address)
- pmsi-tunnel
  - flags
    - assisted-replication-type keyword
    - leaf-information-required boolean
    - pruned-flood-list
      - broadcast-multicast keyword
      - unknown-unicast keyword
    - tunnel-endpoint (ipv4-address | ipv6-address)
  - tunnel-type keyword
  - vni number
- unknown-attributes
  - unknown-attribute unknown-attr-index number
  - attr-len number
  - attr-type number
  - extended boolean
  - optional boolean
  - partial boolean
  - transitive boolean
+ bridge-table
+ discard-unknown-dest-mac boolean
+ mac-duplication
+ action keyword
+ admin-state keyword
- duplicate-entries
  - mac address string
    - destination string
    - destination-index number
    - destination-type keyword
    - dup-detect-time string
    - hold-down-time-remaining (keyword | number)
+ hold-down-time (keyword | number)
+ monitoring-window number
+ num-moves number
+ mac-learning
+ admin-state keyword
+ aging
  + admin-state keyword
  + age-time number
- learnt-entries
  - mac address string
    - aging (number | keyword)
    - destination string
    - last-update string
- mac-relearn-only boolean
- oper-mac-learning keyword
- oper-mac-learning-disabled-reason keyword
+ mac-limit
+ maximum-entries number
+ warning-threshold-pct number
- mac-table
  - mac address string
  - destination string
  - destination-index number
  - destination-type keyword

```

```

- failed-slots number
- is-protected boolean
- last-update string
- not-programmed-reason keyword
- type keyword
+ protect-anycast-gw-mac boolean
+ proxy-arp
+ admin-state keyword
- duplicate-entries
- neighbor ipv4-address string
- detect-time string
- hold-down-time-remaining (keyword | number)
- is-immutable boolean
- link-layer-address string
- state keyword
- dynamic-entries
- neighbor ipv4-address string
- aging (number | keyword)
- is-immutable boolean
- last-update string
- link-layer-address string
- state keyword
+ dynamic-learning
+ admin-state keyword
+ age-time (keyword | number)
+ send-refresh (number | keyword)
+ evpn
+ flood
+ gratuitous-arp boolean
+ unknown-arp-req boolean
- evpn-entries
- neighbor ipv4-address string
- is-immutable boolean
- last-update string
- link-layer-address string
- state keyword
+ ip-duplication
+ anti-spoof-mac string
+ hold-down-time (keyword | number)
+ monitoring-window number
+ num-moves number
+ static-blackhole boolean
- oper-down-reason keyword
+ process-arp-probes boolean
+ static-entries
+ neighbor ipv4-address string
- is-immutable boolean
- last-update string
+ link-layer-address string
- state keyword
- statistics
- active-entries number
- in-active-entries number
- neighbor-origin origin keyword
- active-entries number
- in-active-entries number
- pending-entries number
- total-entries number
- pending-entries number
- total-entries number
- table-entries
- neighbor ipv4-address string
- is-immutable boolean
- last-update string

```



```

- link-layer-address string
- origin keyword
- state keyword
+ table-size number
+ trace-options
+ flag name keyword
+ modifier keyword
+ proxy-nd
+ admin-state keyword
- duplicate-entries
- neighbor ipv6-address string
- detect-time string
- evpn-override boolean
- hold-down-time-remaining (keyword | number)
- is-immutable boolean
- link-layer-address string
- state keyword
- type keyword
- dynamic-entries
- neighbor ipv6-address string
- aging (number | keyword)
- evpn-override boolean
- is-immutable boolean
- last-update string
- link-layer-address string
- state keyword
- type keyword
+ dynamic-learning
+ admin-state keyword
+ age-time (keyword | number)
+ send-refresh (number | keyword)
+ evpn
+ advertise-neighbor-type keyword
+ flood
+ unknown-neighbor-advertise-host boolean
+ unknown-neighbor-advertise-router boolean
+ unknown-neighbor-solicitation boolean
- evpn-entries
- neighbor ipv6-address string
- evpn-override boolean
- is-immutable boolean
- last-update string
- link-layer-address string
- state keyword
- type keyword
+ ip-duplication
+ anti-spoof-mac string
+ hold-down-time (keyword | number)
+ monitoring-window number
+ num-moves number
+ static-blackhole boolean
- oper-down-reason keyword
+ process-dad-neighbor-solicitations boolean
+ static-entries
+ neighbor ipv6-address string
- evpn-override boolean
- is-immutable boolean
- last-update string
+ link-layer-address string
- state keyword
+ type keyword
- statistics
- active-entries number
- in-active-entries number

```

```

- neighbor-origin origin keyword
  - active-entries number
  - in-active-entries number
  - pending-entries number
  - total-entries number
- pending-entries number
- total-entries number
- table-entries
  - neighbor ipv6-address string
    - evpn-override boolean
    - is-immutable boolean
    - last-update string
    - link-layer-address string
    - origin keyword
    - state keyword
    - type keyword
+ table-size number
+ trace-options
  + flag name keyword
  + modifier keyword
- reserved-macs
  - mac address string
  - users application string
+ static-mac
  + mac address string
  + destination (keyword | subinterface-all)
- statistics
  - active-entries number
  - failed-entries number
  - mac-type type keyword
    - active-entries number
    - failed-entries number
    - total-entries number
  - total-entries number
+ description string
- icmp
  - statistics
    - last-clear string
    - total
      - in-error-packets number
      - in-packets number
      - out-error-packets number
      - out-packets number
    - type name keyword
      - in-packets number
      - out-error-packets number
      - out-packets number
- icmp6
  - statistics
    - last-clear string
    - total
      - in-error-packets number
      - in-packets number
      - out-error-packets number
      - out-packets number
    - type name keyword
      - in-packets number
      - out-error-packets number
      - out-packets number
+ inter-instance-policies
  + apply-policy
    + export-policy reference
    + import-policy reference
+ interface name string

```

```

+ bridge-table
- mac-relearn-only boolean
- multicast-forwarding keyword
- oper-mac-learning keyword
- oper-mac-learning-disabled-reason keyword
- index number
- oper-down-reason keyword
- oper-state keyword
+ ip-forwarding
+ last-resort-lookup
+ network-instance reference
+ receive-ipv4-check boolean
+ receive-ipv6-check boolean
+ ip-load-balancing
+ resilient-hash-prefix ip-prefix (ipv4-prefix | ipv6-prefix)
+ hash-buckets-per-path number
+ max-paths number
+ mpls
+ icmp-tunneling boolean
+ static-entry top-label number preference number
+ admin-state keyword
+ collect-stats boolean
- installed boolean
+ next-hop-group reference
+ operation keyword
- resolved-next-hop-group-id reference
+ static-label-block reference
- static-label-block-status keyword
+ mpls-forwarding
+ forward-received-packets boolean
+ mtu
+ path-mtu-discovery boolean
+ next-hop-groups
+ group name string
+ admin-state keyword
+ blackhole
+ generate-icmp boolean
+ nexthop index number
+ admin-state keyword
+ failure-detection
+ enable-bfd
+ local-address (ipv4-address | ipv6-address)
+ local-discriminator number
+ remote-discriminator number
+ ip-address (ipv4-address | ipv6-address)
+ pushed-mpls-label-stack (number | keyword)
+ resolve boolean
- oper-down-reason keyword
- oper-mac-vrf-mtu number
- oper-state keyword
+ policy-forwarding
+ interface subinterface string
+ apply-forwarding-policy reference
+ policy policy-id string
+ description string
+ rule sequence-id number
+ action
+ network-instance reference
+ description string
+ match
+ ipv4
+ dscp-set (number | keyword)
+ protocol (number | keyword)
+ source-ip

```

```

        + prefix string
        - tcam-entries number
        - tcam-entries number
+ protocols
+ bgp
+ admin-state keyword
+ afi-safi afi-safi-name identityref
- active-routes number
+ add-paths
+ receive boolean
+ send boolean
+ send-max number
+ send-multipath
+ admin-state keyword
+ evpn
+ advertise-ipv6-next-hops boolean
+ inter-as-vpn boolean
+ keep-all-routes boolean
+ rapid-update boolean
+ ipv4-unicast
+ advertise-ipv6-next-hops boolean
+ convergence
- converged-peers number
- convergence-state keyword
- convergence-time number
- first-up-peer-time number
- last-up-peer-time number
+ max-wait-to-advertise number
- oper-max-wait-to-advertise number
- up-peers number
- up-peers-when-min-expired number
+ next-hop-resolution
+ ipv4-next-hops
+ tunnel-resolution
+ allowed-tunnel-types identityref
+ mode keyword
+ ipv6-next-hops
+ tunnel-resolution
+ allowed-tunnel-types identityref
+ mode keyword
+ receive-ipv6-next-hops boolean
+ ipv6-unicast
+ convergence
- converged-peers number
- convergence-state keyword
- convergence-time number
- first-up-peer-time number
- last-up-peer-time number
+ max-wait-to-advertise number
- oper-max-wait-to-advertise number
- up-peers number
- up-peers-when-min-expired number
+ next-hop-resolution
+ ipv4-next-hops
+ tunnel-resolution
+ allowed-tunnel-types identityref
+ mode keyword
+ ipv6-next-hops
+ tunnel-resolution
+ allowed-tunnel-types identityref
+ mode keyword
+ multipath
+ allow-multiple-as boolean
+ max-paths-level-1 number

```

```

    + max-paths-level-2 number
    - received-routes number
+ as-path-options
  + allow-own-as number
  + remove-private-as
    + ignore-peer-as boolean
    + leading-only boolean
    + mode keyword
+ authentication
  + keychain reference
  + password string
+ autonomous-system number
+ best-path-selection
  + always-compare-med boolean
+ convergence
  + min-wait-to-advertise number
+ dynamic-neighbors
  + accept
    + match prefix (ipv4-prefix | ipv6-prefix)
      + allowed-peer-as string
      + peer-group reference
    + max-sessions number
  + interface interface-name string
    + allowed-peer-as string
    + max-sessions number
    + peer-group reference
+ ebgp-default-policy
  + export-reject-all boolean
  + import-reject-all boolean
+ export-policy reference
+ failure-detection
  + enable-bfd boolean
  + fast-failover boolean
+ graceful-restart
  + admin-state keyword
  + requested-restart-time number
  + stale-routes-time number
+ group group-name string
  + admin-state keyword
  + afi-safi afi-safi-name identityref
  + add-paths
    + receive boolean
    + send boolean
    + send-max number
    + send-multipath
  + admin-state keyword
+ evpn
  + advertise-ipv6-next-hops boolean
  + prefix-limit
    + max-received-routes number
    + warning-threshold-pct number
+ ipv4-unicast
  + advertise-ipv6-next-hops boolean
  + prefix-limit
    + max-received-routes number
    + prevent-teardown boolean
    + warning-threshold-pct number
  + receive-ipv6-next-hops boolean
+ ipv6-unicast
  + prefix-limit
    + max-received-routes number
    + prevent-teardown boolean
    + warning-threshold-pct number
+ as-path-options

```

```

+ allow-own-as number
+ remove-private-as
+ ignore-peer-as boolean
+ leading-only boolean
+ mode keyword
+ replace-peer-as boolean
+ authentication
+ keychain reference
+ password string
+ description string
+ export-policy reference
+ failure-detection
+ enable-bfd boolean
+ fast-failover boolean
+ graceful-restart
+ admin-state keyword
+ requested-restart-time number
+ stale-routes-time number
+ import-policy reference
+ local-as
+ as-number number
+ prepend-global-as boolean
+ prepend-local-as boolean
+ local-preference number
- maintenance-group string
+ multihop
+ admin-state keyword
+ maximum-hops number
+ next-hop-self boolean
+ peer-as number
+ route-reflector
+ client boolean
+ cluster-id (number | dotted-quad)
+ send-community
+ large boolean
+ standard boolean
+ send-default-route
+ export-policy reference
+ ipv4-unicast boolean
+ ipv6-unicast boolean
- statistics
- disabled-peers number
- dynamic-peers number
- path-memory number
- total-active-routes number
- total-paths number
- total-peers number
- total-prefixes number
- total-received-routes number
- up-peers number
+ timers
+ connect-retry number
+ hold-time number
+ keepalive-interval number
+ minimum-advertisement-interval number
+ prefix-limit-restart-timer number
+ trace-options
+ flag name keyword
+ modifier keyword
+ transport
+ local-address (ipv4-address | ipv6-address | string)
+ mtu-discovery boolean
+ passive-mode boolean
+ tcp-mss number

```

```

- under-maintenance boolean
+ import-policy reference
+ local-preference number
- maintenance-group string
+ neighbor peer-address (ipv4-address-with-zone | ipv6-address-with-zone)
+ admin-state keyword
- advertised-capabilities keyword
+ afi-safi afi-safi-name identityref
- active-routes number
+ add-paths
+ receive boolean
+ send boolean
+ send-max number
+ send-multipath
+ admin-state keyword
+ evpn
+ advertise-ipv6-next-hops boolean
+ prefix-limit
+ max-received-routes number
+ warning-threshold-pct number
+ ipv4-unicast
+ advertise-ipv6-next-hops boolean
+ prefix-limit
+ max-received-routes number
- prefix-limit-exceeded boolean
+ prevent-teardown boolean
+ warning-threshold-pct number
+ receive-ipv6-next-hops boolean
+ ipv6-unicast
+ prefix-limit
+ max-received-routes number
- prefix-limit-exceeded boolean
+ prevent-teardown boolean
+ warning-threshold-pct number
- oper-state keyword
- received-routes number
- rejected-routes number
- sent-routes number
+ as-path-options
+ allow-own-as number
+ remove-private-as
+ ignore-peer-as boolean
+ leading-only boolean
+ mode keyword
+ replace-peer-as boolean
+ authentication
+ keychain reference
+ password string
- transmit-active boolean
+ description string
- discovered-by-lldp boolean
- dynamic-neighbor boolean
- established-transitions number
+ export-policy reference
+ failure-detection
+ enable-bfd boolean
+ fast-failover boolean
+ graceful-restart
+ admin-state keyword
- helper-active boolean
- last-restart-time string
- neighbor-capability
- afi-safi name keyword
- forwarding-preserved boolean

```

```

- restart-time number
- number-of-restarts number
+ requested-restart-time number
+ stale-routes-time number
+ import-policy reference
- last-established string
- last-event keyword
- last-state keyword
+ local-as
+ as-number number
+ prepend-global-as boolean
+ prepend-local-as boolean
+ local-preference number
- maintenance-group string
+ multihop
+ admin-state keyword
+ maximum-hops number
+ next-hop-self boolean
+ peer-as number
+ peer-group reference
- peer-router-id string
- peer-type keyword
- received-afi-safi keyword
- received-capabilities keyword
- received-end-of-rib keyword
- received-messages
- last-notification-error-code keyword
- last-notification-error-subcode keyword
- last-notification-time string
- last-update-time string
- malformed-updates number
- queue-depth number
- route-refresh number
- total-messages number
- total-non-updates number
- total-notifications number
- total-updates number
+ route-reflector
+ client boolean
+ cluster-id (number | dotted-quad)
+ send-community
+ large boolean
+ standard boolean
+ send-default-route
+ export-policy reference
+ ipv4-unicast boolean
+ ipv6-unicast boolean
- sent-end-of-rib keyword
- sent-messages
- last-notification-error-code keyword
- last-notification-error-subcode keyword
- last-notification-time string
- queue-depth number
- route-refresh number
- total-messages number
- total-non-updates number
- total-notifications number
- total-updates number
- session-state keyword
- slow-peer keyword
+ timers
+ connect-retry number
+ hold-time number
+ keepalive-interval number

```



```

+ minimum-advertisement-interval number
- negotiated-hold-time number
- negotiated-keepalive-interval number
- next-connect-retry-time string
+ prefix-limit-restart-timer number
+ trace-options
+ flag name keyword
+ modifier keyword
+ transport
+ local-address (ipv4-address | ipv6-address | string)
- local-port number
+ mtu-discovery boolean
+ passive-mode boolean
- remote-port number
+ tcp-mss number
- under-maintenance boolean
- oper-state keyword
+ preference
+ ebgp number
+ ibgp number
+ route-advertisement
+ rapid-withdrawal boolean
+ wait-for-fib-install boolean
+ route-reflector
+ client boolean
+ cluster-id (number | dotted-quad)
+ router-id (ipv4-address | ipv6-address)
+ send-community
+ large boolean
+ standard boolean
- statistics
- disabled-peers number
- dynamic-peers number
- path-memory number
- total-active-routes number
- total-paths number
- total-peers number
- total-prefixes number
- total-received-routes number
- up-peers number
+ trace-options
+ flag name keyword
+ modifier keyword
+ transport
+ mtu-discovery boolean
+ single-hop-connected-check boolean
+ tcp-mss number
- under-maintenance boolean
+ bgp-evpn
+ bgp-instance id reference
+ admin-state keyword
+ ecmp number
+ encapsulation-type keyword
+ evi number
- oper-down-reason keyword
- oper-state keyword
+ routes
+ bridge-table
+ inclusive-mcast
+ advertise boolean
+ originating-ip (ipv4-address | ipv6-address)
+ mac-ip
+ advertise boolean
+ advertise-arp-nd-only-with-mac-table-entry boolean

```

```

    + next-hop (keyword | ipv4-address | ipv6-address)
    + vlan-aware-bundle-eth-tag number
  + route-table
    + mac-ip
      + advertise-gateway-mac boolean
  + vxlan-interface reference
+ bgp-vpn
  + bgp-instance id number
  + export-policy reference
  + import-policy reference
  - oper-down-reason keyword
  + route-distinguisher
    + rd (route-distinguisher-type-0 | route-distinguisher-type-1 | route-
distinguisher-type-2 | route-distinguisher-type-2b)
    - route-distinguisher-origin keyword
  + route-target
    - export-route-target-origin keyword
    + export-rt (string | string | string | string | string | string | string | string
| string | string)
    - import-route-target-origin keyword
    + import-rt (string | string | string | string | string | string | string | string
| string | string)
  + gribi
    + admin-state keyword
    + default-metric number
    + default-preference number
    + max-ecmp-hash-buckets-per-next-hop-group number
    + maximum-routes number
  + isis
    + dynamic-label-block reference
    - dynamic-label-block-status keyword
    + instance name string
    + admin-state keyword
    + attached-bit
      + ignore boolean
      + suppress boolean
    + authentication
      + csnp-authentication
        + check-received keyword
        + generate boolean
      + hello-authentication
        + check-received keyword
        + generate boolean
      + key
        + auth-password string
        + crypto-algorithm keyword
      + keychain reference
      + lsp-authentication
        + check-received keyword
        + generate boolean
      + psnp-authentication
        + check-received keyword
        + generate boolean
    + auto-cost
      + reference-bandwidth number
    + enable-csnp-on-p2p-links boolean
    + export-policy reference
    + graceful-restart
      + acceptable-duration number
      + helper-mode boolean
    + hello-padding keyword
    - hostnames
      - system-id host-system-id string
      - hostname string

```

```

+ inter-level-propagation-policies
+ level1-to-level2
  + summary-address ip-prefix (ipv4-prefix | ipv6-prefix)
  + route-tag number
+ interface interface-name string
- adjacency neighbor-system-id string adjacency-level string
- area-address string
- designated-is-system-id string
- down-reason keyword
- last-up-down-transition string
- local-extended-circuit-id number
- neighbor-circuit-type keyword
- neighbor-extended-circuit-id number
- neighbor-hostname string
- neighbor-ipv4 string
- neighbor-ipv6 string
- neighbor-last-restart (keyword | date-and-time-delta)
- neighbor-priority number
- neighbor-restart-capable boolean
- neighbor-restart-status keyword
- neighbor-restarts number
- neighbor-snpa string
- nlpid keyword
- remaining-holdtime number
- state keyword
- up-down-transitions number
+ admin-state keyword
+ authentication
+ hello-authentication
  + check-received keyword
  + generate boolean
+ key
  + auth-password string
  + crypto-algorithm keyword
+ keychain reference
- circuit-id number
+ circuit-type keyword
+ hello-padding keyword
+ ipv4-unicast
  + admin-state keyword
  + enable-bfd boolean
  + include-bfd-tlv boolean
+ ipv6-unicast
  + admin-state keyword
  + enable-bfd boolean
  + include-bfd-tlv boolean
+ ldp-synchronization
+ disable
- duration number
+ end-of-lib boolean
+ hold-down-timer number
- sync-state keyword
+ level level-number number
+ authentication
  + hello-authentication
    + check-received keyword
    + generate boolean
  + key
    + auth-password string
    + crypto-algorithm keyword
  + keychain reference
+ disable boolean
+ ipv6-unicast-metric number
+ metric number

```

```

+ priority number
- statistics
  - pdu pdu-name keyword
    - dropped number
    - processed number
    - received number
    - sent number
+ timers
  + hello-interval number
  + hello-multiplier number
+ weighted-ecmp
  + load-balancing-weight (number | keyword)
- oper-state keyword
+ passive boolean
+ segment-routing
+ mpls
  + ipv4-adjacency-sid
    + assignment keyword
    - programmed-sids label-value number
      - adjacency-level keyword
      - neighbor-system-id string
    + static number
  + ipv4-node-sid
    + index number
  + ipv6-adjacency-sid
    + assignment keyword
    - programmed-sids label-value number
      - adjacency-level keyword
      - neighbor-system-id string
    + static number
  + ipv6-node-sid
    + index number
- statistics
  - adjacency-changes number
  - adjacency-number number
  - area-address-mismatches number
  - authentication-failures number
  - authentication-type-failures number
  - designated-is-changes number
  - max-area-address-mismatches number
  - rejected-adjacencies number
  - system-id-length-mismatches number
+ timers
  + csnp-interval number
  + lsp-pacing-interval number
+ trace-options
  + trace keyword
+ ipv4-unicast
  + admin-state keyword
+ ipv6-unicast
  + admin-state keyword
+ ldp-synchronization
  + end-of-lib boolean
  + hold-down-timer number
+ level level-number number
+ authentication
  + csnp-authentication
    + check-received keyword
    + generate boolean
  + hello-authentication
    + check-received keyword
    + generate boolean
  + key
    + auth-password string

```

```

+   + crypto-algorithm keyword
+   + keychain reference
+   + lsp-authentication
+     + check-received keyword
+     + generate boolean
+   + psnp-authentication
+     + check-received keyword
+     + generate boolean
+ metric-style keyword
+ route-preference
+   + external number
+   + internal number
- statistics
-   - authentication-failures number
-   - authentication-type-failures number
-   - corrupted-lsps number
-   - database-overloads number
-   - exceeded-max-sequence-number number
-   - lsp-errors number
-   - manual-address-drop-from-area number
-   - max-area-address-mismatches number
-   - own-lsp-purges number
-   - sequence-number-skips number
-   - spf-runs number
-   - system-id-length-mismatches number
+ trace-options
+   + trace keyword
+ level-capability keyword
- level-database level-number number lsp-id string
-   - attributes
-     - attached boolean
-     - level1-is-type boolean
-     - level2-is-type boolean
-     - overload boolean
-   - checksum string
-   - defined-tlvs
-     - area-addresses string
-     - authentication
-       - auth-data string
-       - auth-type keyword
-     - extended-ipv4-reachability ipv4-prefix string
-     - down boolean
-     - metric number
-     - sub-tlvs
-       - route-tag-32bit number
-       - route-tag-64bit number
-       - segment-routing-prefix-sid
-         - algorithm keyword
-         - explicit-null boolean
-         - local boolean
-         - node-sid boolean
-         - penultimate-hop-popping boolean
-         - re-advertised boolean
-         - sr-index-or-label number
-         - value boolean
-     - extended-is-reachability neighbor string
-     - default-metric number
-     - sub-tlvs
-       - ipv4-interface-address string
-       - ipv4-neighbor-address string
-       - ipv6-interface-address string
-       - ipv6-neighbor-address string
-       - link-msd
-         - msd-info msd-type (keyword | number) msd-value number

```

```

- segment-routing-adjacency-sid sr-index-or-label number
  - adj-set boolean
  - backup boolean
  - ipv6-family boolean
  - local boolean
  - persistent boolean
  - value boolean
  - weight number
- segment-routing-lan-adjacency-sid sr-index-or-label number
  - adj-set boolean
  - backup boolean
  - ipv6-family boolean
  - local boolean
  - neighbor-system-id string
  - persistent boolean
  - value boolean
  - weight number
- hostname string
- ipv4-external-reachability ipv4-prefix string
  - default-metric number
  - default-metric-type keyword
  - down boolean
- ipv4-interface-addresses (ipv4-address | ipv6-address)
- ipv4-internal-reachability ipv4-prefix string
  - default-metric number
  - default-metric-type keyword
  - down boolean
- ipv6-interface-addresses (ipv4-address | ipv6-address)
- ipv6-reachability ipv6-prefix string
  - down boolean
  - external boolean
  - metric number
  - sub-tlvs
    - route-tag-32bit number
    - route-tag-64bit number
    - segment-routing-prefix-sid
      - algorithm keyword
      - explicit-null boolean
      - local boolean
      - node-sid boolean
      - penultimate-hop-popping boolean
      - re-advertised boolean
      - sr-index-or-label number
      - value boolean
- is-reachability neighbor string
  - default-metric number
  - default-metric-type keyword
- mt-ipv4-reachability ipv4-prefix string
  - down boolean
  - metric number
  - mt-id number
  - sub-tlvs
    - route-tag-32bit number
    - route-tag-64bit number
    - segment-routing-prefix-sid
      - algorithm keyword
      - explicit-null boolean
      - local boolean
      - node-sid boolean
      - penultimate-hop-popping boolean
      - re-advertised boolean
      - sr-index-or-label number
      - value boolean
- mt-ipv6-reachability ipv6-prefix string

```

```

- down boolean
- external boolean
- metric number
- mt-id number
- sub-tlvs
  - route-tag-32bit number
  - route-tag-64bit number
  - segment-routing-prefix-sid
    - algorithm keyword
    - explicit-null boolean
    - local boolean
    - node-sid boolean
    - penultimate-hop-popping boolean
    - re-advertised boolean
    - sr-index-or-label number
    - value boolean
- mt-is-reachability-neighbor string
- default-metric number
- mt-id number
- sub-tlvs
  - ipv4-interface-address string
  - ipv4-neighbor-address string
  - ipv6-interface-address string
  - ipv6-neighbor-address string
  - link-msd
    - msd-info msd-type (keyword | number) msd-value number
  - segment-routing-adjacency-sid sr-index-or-label number
    - adj-set boolean
    - backup boolean
    - ipv6-family boolean
    - local boolean
    - persistent boolean
    - value boolean
    - weight number
  - segment-routing-lan-adjacency-sid sr-index-or-label number
    - adj-set boolean
    - backup boolean
    - ipv6-family boolean
    - local boolean
    - neighbor-system-id string
    - persistent boolean
    - value boolean
    - weight number
- multi-topology
  - topology mt-id number
    - attached boolean
    - overload boolean
- nlpid keyword
- purge-oi string
- router-capability
  - leaked-down boolean
  - router-id string
  - scope-is-domain-wide boolean
- sub-tlvs
  - node-msd
    - msd-info msd-type (keyword | number) msd-value number
  - sr-algorithm
    - algorithm number
  - sr-capabilities
    - ipv4-support boolean
    - ipv6-support boolean
    - srgb-descriptor sr-index-or-label number range number
  - sr-local-block
    - srlb-descriptor sr-index-or-label number range number

```

```

- te-router-id string
- maximum-area-addresses number
- pdu-length number
- pdu-type number
- pkt-version number
- remaining-lifetime number
- sequence-number string
- system-id-len number
- undefined-tlvs string
- version number
+ max-ecmp-paths number
+ net string
- oper-area-id string
- oper-state keyword
- oper-system-id string
+ overload
+ advertise-external boolean
+ advertise-interlevel boolean
+ immediate
+ max-metric boolean
+ set-bit boolean
- instance-is-in-overload boolean
+ on-boot
+ max-metric boolean
+ set-bit boolean
+ timeout number
+ poi-tlv boolean
- restarting-neighbor-list
- neighbor system-id string
- hostname string
+ segment-routing
+ mpls
+ dynamic-adjacency-sids
+ all-interfaces boolean
+ hold-time (keyword | number)
- sid-database
- prefix-sid prefix (ipv4-prefix | ipv6-prefix) sid-label-
value number multi-topology-id number algorithm number
- active boolean
- prefix-conflict boolean
- sid-conflict boolean
- sid-out-of-range boolean
- source-router system-id string level-number number
- flags
- explicit-null boolean
- local boolean
- node-sid boolean
- penultimate-hop-popping boolean
- re-advertised boolean
- local-system boolean
+ static-label-block reference
- static-label-block-status keyword
- statistics
- last-partial-spf string
- last-spf string
- partial-spf-runs number
- pdu pdu-name keyword
- dropped number
- processed number
- received number
- sent number
- spf-runs number
+ timers
+ lsp-generation

```



```

    + initial-wait number
    + max-wait number
    + second-wait number
  + lsp-lifetime number
  + lsp-refresh
    + half-lifetime boolean
    + interval number
  + spf
    + initial-wait number
    + max-wait number
    + second-wait number
  + trace-options
    + trace keyword
  + transport
    + lsp-mtu-size number
  + weighted-ecmp
    + admin-state keyword
    + max-ecmp-hash-buckets-per-next-hop-group number
+ non-stop-forwarding
  + admin-state keyword
+ ldp
+ admin-state keyword
+ discovery
  + interfaces
    + hello-holdtime number
    + hello-interval number
    + interface name string
    + hello-holdtime number
    + hello-interval number
    + ipv4
      + admin-state keyword
      - hello-adjacencies
        - adjacency lsr-id reference label-space-id reference
          - hello-holdtime
            - negotiated number
            - neighbor-proposed number
            - remaining number
          - hello-received number
          - hello-sent number
          - local-address string
          - remote-address string
        - last-oper-state-change string
        - oper-down-reason keyword
        - oper-state keyword
        - statistics
          - hello-message-errors
            - bad-message-length number
            - bad-pdu-length number
            - bad-protocol-version number
            - malformed-tlv-value number
          - hello-received number
          - hello-sent number
          + trace-options
            + trace keyword
      + trace-options
        + trace keyword
    + dynamic-label-block reference
    - dynamic-label-block-status keyword
  + graceful-restart
    + helper-enable boolean
    + max-reconnect-time number
    + max-recovery-time number
  + ipv4
    - bindings

```

```

- advertised-address
  - peer lsr-id reference label-space-id reference
    - ip-address string
- advertised-prefix-fecs fec string lsr-id reference label-space-id reference
  - egress-lsr-fec boolean
  - label (number | keyword)
  - label-status keyword
  - label-type keyword
- received-address
  - peer lsr-id reference label-space-id reference
    - ip-address string
- received-prefix-fecs fec string lsr-id reference label-space-id reference
  - ingress-lsr-fec boolean
  - label (number | keyword)
  - next-hop index number
    - interface string
    - next-hop (ipv4-address | ipv6-address)
  - not-used-reason keyword
  - used-in-forwarding boolean
+ fec-resolution
+ longest-prefix boolean
- last-oper-state-change string
- oper-down-reason keyword
- oper-state keyword
- oper-up-to-down-transitions number
- lsr-id string
+ multipath
+ max-paths number
+ peers
+ peer lsr-id string label-space-id number
  - adjacency-type keyword
  - end-of-lib
    - ipv4-prefix-fecs
      - received boolean
      - sent boolean
+ fec-limit number
- fec-limit-exceeded boolean
- graceful-restart
  - peer-reconnect-time number
  - peer-recovery-time number
  - peer-restarting boolean
- label-advertisement-mode
  - negotiated keyword
- last-oper-state-change string
- overload
  - local-router-is-overloaded boolean
  - peer-is-overloaded boolean
- received-capabilities
  - dual-stack-capability boolean
  - dynamic-capability boolean
  - entropy-label-capability boolean
  - graceful-restart-capability boolean
  - make-before-break-capability boolean
  - multipoint-to-multipoint-capability boolean
  - nokia-vendor-overload-capability boolean
  - point-to-multipoint-capability boolean
  - state-advertisement-control
    - ipv4-prefix-disable boolean
    - ipv6-prefix-disable boolean
    - p2p-pseudowire-fec-128-disable boolean
    - p2p-pseudowire-fec-129-disable boolean
  - unrecognized-notification-capability boolean
- session-holdtime
  - negotiated number

```

```

- peer-proposed number
- remaining number
- session-state keyword
- statistics
  - address-statistics
    - ipv4
      - advertised-addresses number
      - received-addresses number
    - fec-statistics
      - ipv4-prefix
        - advertised-fecs number
        - received-fecs number
    - received-messages
      - address number
      - address-withdraw number
      - capability number
      - initialization number
      - keepalive number
      - label-abort-request number
      - label-mapping number
      - label-release number
      - label-request number
      - label-withdraw number
      - notification number
      - total-messages number
    - sent-messages
      - address number
      - address-withdraw number
      - capability number
      - initialization number
      - keepalive number
      - label-abort-request number
      - label-mapping number
      - label-release number
      - label-request number
      - label-withdraw number
      - notification number
      - total-messages number
+ tcp-transport
  - local-address string
  - local-port number
  - remote-address string
  - remote-port number
+ trace-options
  + trace keyword
+ session-keepalive-holdtime number
+ session-keepalive-interval number
+ trace-options
  + trace keyword
- statistics
  - fec-statistics
    - ipv4-prefix
      - advertised-fecs number
      - received-fecs number
  - protocol-errors
    - bad-ldp-identifier number
    - bad-message-length number
    - bad-pdu-length number
    - bad-protocol-version number
    - bad-tlv-length number
    - malformed-tlv-value number
    - missing-message-parameters number
    - session-rejected-bad-keepalive-time number
    - session-rejected-no-hello number

```

```

- session-rejected-parameters-adv-mode number
- session-rejected-parameters-label-range number
- session-rejected-parameters-max-pdu-length number
- unknown-message-type number
- unknown-tlv number
- unsupported-address-family number
- sessions-terminated-holdtime-expiry number
- total-discovery-interfaces number
- total-interface-hello-adjacencies number
- total-peers number
+ linux
+ export-neighbors boolean
+ export-routes boolean
+ import-routes boolean
+ ospf
+ instance name string
+ address-family identityref
+ admin-state keyword
+ advertise-router-capability keyword
+ area area-id
- active-interfaces number
+ advertise-router-capability boolean
- area-bdr-rtr-count
+ area-range ip-prefix-mask (ipv4-prefix | ipv6-prefix)
+ advertise boolean
- as-bdr-rtr-count
+ blackhole-aggregate boolean
+ export-policy reference
- full-spf-runs
+ interface interface-name string
+ admin-state keyword
+ advertise-router-capability boolean
+ advertise-subnet boolean
+ authentication
+ keychain reference
- bad-packets
- auth-failures
- bad-area
- bad-auth-type
- bad-checksum
- bad-dead-interval
- bad-dest-address
- bad-hello-interval
- bad-length
- bad-neighbors
- bad-network
- bad-options
- bad-packet-type
- bad-version
- bad-virtual-link
- bdr-id
+ dead-interval number
- dr-id
- events
+ failure-detection
+ enable-bfd boolean
+ hello-interval number
+ interface-type keyword
- last-enabled-time
- last-event-time string
+ ldp-synchronization
+ disable
- duration number
+ end-of-lib boolean

```

```

+ hold-down-timer number
- sync-state keyword
- link-lsa-cksum-sum string
- link-lsa-count
- local-ip-address (ipv4-address | ipv6-address)
+ lsa-filter-out keyword
- lsa-totals
- e-link-lsa
- link-lsa
- link-opaque-lsa
- router-info-lsa
+ metric number
+ mtu number
- neighbor router-id
- address (ipv4-address-with-zone | ipv6-address-with-zone)
- adjacency-state identityref
- backup-designated-router
- dead-time number
- designated-router
- last-established-time number
- last-event-time
- last-restart-time
- optional-capabilities
- priority number
- restart-helper-age number
- restart-helper-exit-rc keyword
- restart-helper-status keyword
- restart-reason (number | keyword)
- retransmission-queue-length number
- state-changes number
- statistics
- bad-mtu
- bad-nbr-states
- bad-packets
- bad-seq-nums
- duplicates
- events
- lsa-install-failed
- lsa-not-in-lsdb
- num-restarts
- option-mismatches
- up-time number
- neighbor-count
- oper-state keyword
- packets
- discarded
- retransmits
- rx-db-description
- rx-hello
- rx-ls-ack
- rx-ls-request
- rx-ls-update
- rx-total
- tx-db-description
- tx-hello
- tx-ls-ack
- tx-ls-request
- tx-ls-update
- tx-total
+ passive boolean
+ priority number
+ retransmit-interval number
+ trace-options
+ trace

```

```

    + adjacencies
    + interfaces
    + packet
      + detail
      + modifier keyword
      + type keyword
+ transit-delay number
- type keyword
- last-spf-run-time
- lsa-filter-totals
  - export-filtered
  - import-filtered
- lsa-totals
  - area-opaque-lsa
  - asbr-summary-lsa
  - e-inter-area-prefix-lsa
  - e-inter-area-router-lsa
  - e-intra-area-prefix-lsa
  - e-network-lsa
  - e-nssa-lsa
  - e-router-lsa
  - inter-area-prefix-lsa
  - inter-area-router-lsa
  - intra-area-prefix-lsa
  - network-lsa
  - network-summary-lsa
  - nssa-lsa
  - router-info-lsa
  - router-lsa
  - total
  - total-lsa-cksum-sum string
  - unknown-lsa
+ nssa
  + area-range ip-prefix-mask (ipv4-prefix | ipv6-prefix)
  + advertise boolean
  + originate-default-route
  + adjacency-check boolean
  + type-nssa boolean
  + redistribute-external boolean
  + summaries boolean
+ stub
  + default-metric number
  + summaries boolean
- area-border-router boolean
- as-border-router boolean
+ asbr
  + trace-path (number | keyword)
- backbone-router boolean
+ export-limit
  + log-percent number
  + number number
+ export-policy reference
- extern-lsa-cksum-sum string
- extern-lsa-count
+ external-db-overflow
  + interval number
  + limit number
+ external-preference number
+ graceful-restart
  + helper-mode boolean
  + strict-lsa-checking boolean
+ instance-id number
- last-disabled-reason string
- last-enabled-time string

```

```

- last-overflow-entered-time string
- last-overflow-exit-time string
- last-overload-enter-code keyword
- last-overload-entered-time string
- last-overload-exit-code keyword
- last-overload-exit-time string
+ ldp-synchronization
+ end-of-lib boolean
+ hold-down-timer number
- lsa-totals
- as-external-lsa
- as-opaque-lsa
- e-as-external-lsa
- router-info-lsa
+ max-ecmp-paths number
- new-lsas-originated
- new-lsas-received
- opaque-lsa-support boolean
- oper-state keyword
- overflow boolean
+ overload
+ active boolean
+ overload-include-ext-1 boolean
+ overload-include-ext-2 boolean
+ overload-include-stub boolean
+ overload-on-boot
+ timeout number
+ rtr-adv-lsa-limit
+ log-only boolean
+ max-lsa-count number
+ overload-timeout number
+ warning-threshold number
- overload-rem-interval number
- overload-state keyword
- ovld-lsa-limit-rem-interval number
+ preference number
+ reference-bandwidth number
+ router-id
- routes-submitted
- spf
- avg-spf-run-interval number
- ext-spf-runs
- full-spf-runs
- incremental-ext-spf-runs
- incremental-inter-spf-runs
- last-ext-spf
- interval number
- run-time string
- last-full-spf
- extern-spf-time number
- inter-spf-time number
- intra-spf-time number
- rtm-update-time number
- run-time string
- total-time number
- max-spf-run-interval number
- min-spf-run-interval number
- spf-attempts-failed
+ timers
+ incremental-spf-wait number
+ lsa-accumulate number
+ lsa-arrival number
+ lsa-generate
+ lsa-initial-wait number

```

```

    + lsa-second-wait number
    + max-lsa-wait number
  + redistribute-delay number
  + spf-wait
    + spf-initial-wait number
    + spf-max-wait number
    + spf-second-wait number
- total-exported-routes
+ trace-options
  + trace
    + adjacencies
    + graceful-restart
    + interfaces
    + lsdbs
      + link-state-id string
      + router-id string
      + type keyword
    + misc
    + packet
      + detail
      + modifier keyword
      + type keyword
    + routes
      + dest-address (ipv4-address | ipv6-address)
    + spf
      + dest-address (ipv4-address | ipv6-address)
  + version identityref
- route-table
  - ipv4-unicast
    - route ipv4-prefix string route-type identityref route-owner string id number origin-
network-instance reference
    - active boolean
    - fib-programming
      - last-failed-complexes string
      - last-failed-operation-type keyword
      - last-successful-operation-timestamp string
      - last-successful-operation-type keyword
      - pending-operation-type keyword
      - suppressed boolean
    - gribi-metadata binary
    - last-app-update string
    - leakable boolean
    - metric number
    - next-hop-group reference
    - next-hop-group-network-instance reference
    - preference number
    - resilient-hash boolean
    - target-network-instances reference
  - route-summary
    - route-type ip-route-type-name identityref
    - active-routes number
  - statistics
    - active-routes number
    - active-routes-with-ecmp number
    - fib-failed-routes number
    - resilient-hash-routes number
    - total-routes number
  - ipv6-unicast
    - route ipv6-prefix string route-type identityref route-owner string id number origin-
network-instance reference
    - active boolean
    - fib-programming
      - last-failed-complexes string
      - last-failed-operation-type keyword

```



```

- last-successful-operation-timestamp string
- last-successful-operation-type keyword
- pending-operation-type keyword
- suppressed boolean
- gribi-metadata binary
- last-app-update string
- leakable boolean
- metric number
- next-hop-group reference
- next-hop-group-network-instance reference
- preference number
- resilient-hash boolean
- target-network-instances reference
- route-summary
- route-type ip-route-type-name identityref
  - active-routes number
- statistics
- active-routes number
- active-routes-with-ecmp number
- fib-failed-routes number
- resilient-hash-routes number
- total-routes number
- mpls
- label-entry label-value number
- entry-type identityref
- last-app-update string
- next-hop-group reference
- next-network-instance reference
- operation keyword
- statistics
- active-entries number
- next-hop index number
- decapsulate-header keyword
- encapsulate-header keyword
- ip-address (ipv4-address | ipv6-address)
- ip-in-ip
- dst-ip (ipv4-address | ipv6-address)
- src-ip (ipv4-address | ipv6-address)
- mac-address string
- mpls
- pushed-mpls-label-stack (number | keyword)
- network-instance reference
- programmed-index number
- resolving-route
- ip-prefix (ipv4-prefix | ipv6-prefix)
- route-owner string
- route-type identityref
- resolving-tunnel
- ip-prefix (ipv4-prefix | ipv6-prefix)
- tunnel-owner string
- tunnel-type identityref
- subinterface reference
- type identityref
- vxlan
- destination-mac string
- source-mac string
- vni number
- next-hop-group index number
- backup-next-hop-group reference
- fib-programming
- last-failed-complexes string
- last-failed-operation-type keyword
- last-successful-operation-timestamp string
- last-successful-operation-type keyword

```

```

- pending-operation-type keyword
- suppressed boolean
- group-name-alias string
- next-hop id number
  - next-hop reference
  - resolved keyword
  - weight number
- programmed-index number
+ router-id string
+ segment-routing
+ mpls
+ global-block
  + label-range reference
  - label-range-status keyword
+ local-prefix-sid prefix-sid-index number
+ interface string
+ ipv4-label-index number
+ ipv6-label-index number
+ node-sid boolean
- sid-database
  - prefix-sid prefix (ipv4-prefix | ipv6-prefix) sid-label-
value number protocol keyword protocol-instance number protocol-multi-
topology number algorithm number
  - active boolean
  - prefix-conflict boolean
  - sid-conflict boolean
+ static-routes
+ admin-state keyword
+ route prefix (ipv4-prefix | ipv6-prefix)
  + admin-state keyword
  - installed boolean
  + metric number
  + next-hop-group reference
  + preference number
- system-ipv4-address
  - oper-down-reason keyword
  - oper-state keyword
- system-ipv6-address
  - oper-down-reason keyword
  - oper-state keyword
- tcp
  - connection local-address (ipv4-address | ipv6-address) local-port number remote-
address (ipv4-address | ipv6-address) remote-port number
  - process-id number
  - session-state keyword
  - listening-application local-address (ipv4-address | ipv6-address) local-port number
  - process-id number
- statistics
  - active-opens number
  - attempt-fails number
  - established-resets number
  - in-checksum-errors number
  - in-error-segments number
  - in-segments number
  - out-rst-segments number
  - out-segments number
  - passive-opens number
  - retransmitted-segments number
- tunnel-table
- ipv4
  - statistics
    - active-tunnels number
    - inactive-tunnels number
    - total-tunnels number

```

```

- tunnel ipv4-prefix string type identityref owner string id number
  - encapsulation-type keyword
  - fib-programming
    - not-programmed-reason keyword
    - status keyword
  - ip-in-ip
    - destination-address (ipv4-address | ipv6-address)
    - source-address (ipv4-address | ipv6-address)
  - last-app-update string
  - metric number
  - next-hop-group reference
  - preference number
  - vxlan
    - destination-address (ipv4-address | ipv6-address)
    - destination-udp-port number
    - source-address (ipv4-address | ipv6-address)
    - time-to-live number
- tunnel-summary
  - tunnel-type type identityref
  - active-tunnels number
  - inactive-tunnels number
  - total-tunnels number
- ipv6
  - statistics
    - active-tunnels number
    - inactive-tunnels number
    - total-tunnels number
  - tunnel ipv6-prefix string type identityref owner string id number
    - encapsulation-type keyword
    - fib-programming
      - not-programmed-reason keyword
      - status keyword
    - ip-in-ip
      - destination-address (ipv4-address | ipv6-address)
      - source-address (ipv4-address | ipv6-address)
    - last-app-update string
    - metric number
    - next-hop-group reference
    - preference number
    - vxlan
      - destination-address (ipv4-address | ipv6-address)
      - destination-udp-port number
      - source-address (ipv4-address | ipv6-address)
      - time-to-live number
  - tunnel-summary
    - tunnel-type type identityref
    - active-tunnels number
    - inactive-tunnels number
    - total-tunnels number
+ type identityref
- udp
  - listening-application local-address (ipv4-address | ipv6-address) local-port number
  - process-id number
  - statistics
    - ignored-multicast-packets number
    - in-checksum-errors number
    - in-error-packets number
    - in-no-open-ports-packets number
    - in-packets number
    - out-packets number
    - receive-buffer-errors number
    - send-buffer-errors number
+ vxlan-interface name string
  - oper-down-reason keyword

```

- **oper-state** *keyword*

## 6.1 network-instance Descriptions

### network-instance *name string*

<b>Description</b>	Network instances configured on the local system
<b>Context</b>	<a href="#">network-instance name string</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	A unique name identifying the network instance
<b>Context</b>	<a href="#">network-instance name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### admin-state *keyword*

<b>Description</b>	This leaf contains the configured, desired state of the network instance.
<b>Context</b>	<a href="#">network-instance name string admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### aggregate-routes

<b>Description</b>	Enable the aggregate-routes context
<b>Context</b>	<a href="#">network-instance name string aggregate-routes</a>
<b>Tree</b>	<a href="#">aggregate-routes</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **route prefix** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	Enter the route list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes</a> <a href="#">route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Tree</b>	<a href="#">route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	16384

### **prefix** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes</a> <a href="#">route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	This leaf contains the configured, desired state of the aggregate prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes</a> <a href="#">route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **aggregator**

<b>Description</b>	Enter the aggregator context
--------------------	------------------------------

<b>Context</b>	<a href="#">network-instance name string aggregate-routes route prefix (ipv4-prefix   ipv6-prefix) aggregator</a>
<b>Tree</b>	<a href="#">aggregator</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **address** *string*

<b>Description</b>	Specifies the aggregator's IP address.
<b>Context</b>	<a href="#">network-instance name string aggregate-routes route prefix (ipv4-prefix   ipv6-prefix) aggregator address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **as-number** *number*

<b>Description</b>	Specifies the aggregator's ASN
<b>Context</b>	<a href="#">network-instance name string aggregate-routes route prefix (ipv4-prefix   ipv6-prefix) aggregator as-number number</a>
<b>Tree</b>	<a href="#">as-number</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **communities**

<b>Description</b>	Enter the communities context
<b>Context</b>	<a href="#">network-instance name string aggregate-routes route prefix (ipv4-prefix   ipv6-prefix) communities</a>
<b>Tree</b>	<a href="#">communities</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**add** (*bgp-std-community-type* | *bgp-std-community-regexp-type* | *identityref* | *bgp-large-community-type* | *bgp-large-community-regexp-type*)

<b>Description</b>	Enter the add context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">communities add</a> ( <i>bgp-std-community-type</i>   <i>bgp-std-community-regexp-type</i>   <i>identityref</i>   <i>bgp-large-community-type</i>   <i>bgp-large-community-regexp-type</i> )
<b>Tree</b>	<a href="#">add</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>no-export Do not export NLRI received carrying this community outside the bounds of this autonomous system, or this confederation if the local autonomous system is a confederation member AS. This community has a value of 0xFFFFFFFF01.</li> <li>no-advertise All NLRI received carrying this community must not be advertised to other BGP peers. This community has a value of 0xFFFFFFFF02.</li> <li>no-export-subconfed All NLRI received carrying this community must not be advertised to external BGP peers - including over confederation sub-AS boundaries. This community has a value of 0xFFFFFFFF03.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	12

**generate-icmp** *boolean*

<b>Description</b>	When set to true the router generates ICMP unreachable messages for packets matching the aggregate route (and not a more specific route).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">generate-icmp</a> <i>boolean</i>
<b>Tree</b>	<a href="#">generate-icmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**installed** *boolean*

<b>Description</b>	If set to true, this indicates that the aggregate route was installed into the datapath. If this is false then there are 2 possible reasons: (a) the admin-state is disable (b) there is another IP route for the same prefix that has a superior preference
--------------------	--



---

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">installed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">installed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **summary-only** *boolean*

<b>Description</b>	When set to true the router blocks the advertisement of all contributing routes of this aggregate route in dynamic protocols such as BGP.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">aggregate-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">summary-only</a> <i>boolean</i>
<b>Tree</b>	<a href="#">summary-only</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **bgp-rib**

<b>Description</b>	Container for BGP RIB state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a>
<b>Tree</b>	<a href="#">bgp-rib</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **afi-safi** [afi-safi-name](#) *identityref*

<b>Description</b>	List of address families with routes in the BGP RIB
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">afi-safi</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**afi-safi-name** *identityref*

<b>Description</b>	The name of the address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv4-unicast</a> Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)</li> <li>• <a href="#">ipv6-unicast</a> Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)</li> <li>• <a href="#">evpn</a> EVPN routes (AFI = 25, SAFI = 70)</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**ipv4-unicast**

<b>Description</b>	Container for RIB state of IPv4-unicast routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**local-rib**

<b>Description</b>	Container for local RIB, containing all imported routes from other protocols plus the post-import-policy version of all IPv4 routes learned from all BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a>
<b>Tree</b>	<a href="#">local-rib</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** *prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone | ipv6-address-with-zone) origin-protocol identityref path-id number*

<b>Description</b>	List of IPv4 routes in the local RIB.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <b>routes</b> <i>prefix (ipv4-prefix   ipv6-prefix) neighbor (ipv4-address-with-zone   ipv6-address-with-zone) origin-protocol identityref path-id number</i>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**prefix** *(ipv4-prefix | ipv6-prefix)*

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <b>routes</b> <i>prefix (ipv4-prefix   ipv6-prefix) neighbor (ipv4-address-with-zone   ipv6-address-with-zone) origin-protocol identityref path-id number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**neighbor** *(ipv4-address-with-zone | ipv6-address-with-zone)*

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <b>routes</b> <i>prefix (ipv4-prefix   ipv6-prefix) neighbor (ipv4-address-with-zone   ipv6-address-with-zone) origin-protocol identityref path-id number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**origin-protocol** *identityref*

<b>Description</b>	If the route was imported from another protocol, this is the protocol name.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">aggregate</a> Locally configured aggregate route</li> <li>• <a href="#">arp-nd</a> IP route added by ARP ND.</li> <li>• <a href="#">bgp</a> Border Gateway Protocol version 4</li> <li>• <a href="#">bgp-evpn</a> BGP Ethernet VPN (EVPN)</li> <li>• <a href="#">dhcp</a> IP (default) route added by DHCP.</li> <li>• <a href="#">gribi</a> A gRIBI route</li> <li>• <a href="#">host</a> A host route</li> <li>• <a href="#">isis</a> IS-IS</li> <li>• <a href="#">local</a> A directly connected route</li> <li>• <a href="#">linux</a> IP route added by the linux kernel.</li> <li>• <a href="#">ndk1</a> Route added by an agent application using the NDK</li> <li>• <a href="#">ndk2</a> Route added by an agent application using the NDK</li> <li>• <a href="#">ospfv2</a> OSPFv2</li> <li>• <a href="#">ospfv3</a> OSPFv3</li> <li>• <a href="#">static</a> Locally configured static route</li> </ul>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### path-id number

**Description** Path identifier of the BGP route

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id number](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### attr-id reference

**Description** Leaf reference to networkinstance/bgp-rib/ attr-sets/attr-set/index

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id number](#) [attr-id reference](#)

**Tree** [attr-id](#)

**Reference** [network-instance name](#) *string* [bgp-rib](#) [attr-sets](#) [attr-set](#) [index](#) *number*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### best-route boolean

**Description** Set to true if the route is the BGP best path for the prefix.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id number](#) [best-route](#) *boolean*

**Tree** [best-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### group-best *boolean*

**Description** Set to true if the route is the best BGP route amongst all routes received from one particular neighbor AS

**Context** [network-instance name](#) *string* [bgp-rib afi-safi afi-safi-name](#) *identityref* [ipv4-unicast local-rib routes prefix](#) (*ipv4-prefix* | *ipv6-prefix*) [neighbor](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [origin-protocol](#) *identityref* [path-id number](#) [group-best](#) *boolean*

**Tree** [group-best](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### invalid-reason

**Description** Enter the invalid-reason context

**Context** [network-instance name](#) *string* [bgp-rib afi-safi afi-safi-name](#) *identityref* [ipv4-unicast local-rib routes prefix](#) (*ipv4-prefix* | *ipv6-prefix*) [neighbor](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [origin-protocol](#) *identityref* [path-id number](#) [invalid-reason](#)

**Tree** [invalid-reason](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### as-loop *boolean*

**Description** Indicates true if the BGP route has an AS path loop that exceeds the configured threshold.

**Context** [network-instance name](#) *string* [bgp-rib afi-safi afi-safi-name](#) *identityref* [ipv4-unicast local-rib routes prefix](#) (*ipv4-prefix* | *ipv6-prefix*) [neighbor](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [origin-protocol](#) *identityref* [path-id number](#) [invalid-reason](#) [as-loop](#) *boolean*

**Tree** [as-loop](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### cluster-loop *boolean*

**Description** Indicates true if the BGP route has a cluster-list loop.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [invalid-reason](#) [cluster-loop](#) *boolean*

**Tree** [cluster-loop](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### next-hop-unresolved *boolean*

**Description** Indicates true if the BGP route has a BGP next-hop that cannot be resolved to an outgoing interface.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [invalid-reason](#) [next-hop-unresolved](#) *boolean*

**Tree** [next-hop-unresolved](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### rejected-route *boolean*

**Description** Indicates true if the route was rejected by an import policy.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [invalid-reason](#) [rejected-route](#) *boolean*

**Tree** [rejected-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### last-modified *string*

**Description** Time of the last modification of the route stored in the BGP RIB. For a route learned from a BGP neighbor the initial value is the same as last-updatereceived. If an import policy later changed some attribute of the route last-modified would be updated to reflect the time of this change.

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [last-modified](#) [string](#)

**Tree** [last-modified](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### neighbor-as *number*

**Description** The last external AS to advertise the route into the local AS

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [neighbor-as](#) [number](#)

**Tree** [neighbor-as](#)

**Range** 1 to 4294967295

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### pending-delete *boolean*

**Description** Set to true if the route is marked for deletion.

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-](#)



	<i>address-with-zone   ipv6-address-with-zone</i> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <a href="#">number</a> <a href="#">pending-delete</a> <a href="#">boolean</a>
<b>Tree</b>	<a href="#">pending-delete</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**stale-route** *boolean*

<b>Description</b>	Set to true if the route is stale due to BGP graceful restart.
<b>Context</b>	<a href="#">network-instance</a> <a href="#">name</a> <a href="#">string</a> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <a href="#">number</a> <a href="#">stale-route</a> <a href="#">boolean</a>
<b>Tree</b>	<a href="#">stale-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**tie-break-reason** *keyword*

<b>Description</b>	Indicates the reason why a BGP route is sorted behind the next best route. The BGP best path displays a value of 'none'.
<b>Context</b>	<a href="#">network-instance</a> <a href="#">name</a> <a href="#">string</a> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <a href="#">number</a> <a href="#">tie-break-reason</a> <a href="#">keyword</a>
<b>Tree</b>	<a href="#">tie-break-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• unknown</li> <li>• none</li> <li>• origin</li> <li>• as-path-length</li> <li>• next-hop-cost</li> <li>• med</li> <li>• local-pref</li> <li>• aggregate</li> <li>• originator-id</li> <li>• cluster-list</li> </ul>

- extended-community
- aigp
- missing-attribute
- rtm-pref
- owner
- eigrp-labeled
- vpn-route
- ebgp-route
- peer-ip
- local-peer
- multi-path
- vpn-rd
- next-hop-type
- invalid-route
- origin-validation
- long-live-gr-stale
- default-originate
- rtm-install-disabled
- peer-router-id
- path-identifier

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**used-route *boolean*****Description**

Indicates true if the route is being used for forwarding.

**Context**

[network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [used-route](#) *boolean*

**Tree**[used-route](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**valid-route** *boolean*

<b>Description</b>	Indicates true if the route is valid.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i> <b>valid-route</b> <i>boolean</i>
<b>Tree</b>	<a href="#">valid-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**rib-in-out**

<b>Description</b>	Container for BGP routes learned and advertised to BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <b>rib-in-out</b>
<b>Tree</b>	<a href="#">rib-in-out</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**rib-in-post**

<b>Description</b>	Container for the post-import-policy version of BGP routes learned from BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <b>rib-in-post</b>
<b>Tree</b>	<a href="#">rib-in-post</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** [prefix](#) (*ipv4-prefix* | *ipv6-prefix*) [neighbor](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [path-id](#) *number*

<b>Description</b>	List of IPv4 routes
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **prefix** ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **neighbor** ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#))

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **path-id** *number*

<b>Description</b>	Path identifier of the BGP route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### attr-id *reference*

**Description** Leaf reference to networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number* [attr-id](#) *reference*

**Tree** [attr-id](#)

**Reference** [network-instance name](#) *string* [bgp-rib](#) [attr-sets](#) [attr-set](#) [index](#) *number*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### best-route *boolean*

**Description** Set to true if the route is the BGP best path for the prefix.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number* [best-route](#) *boolean*

**Tree** [best-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### group-best *boolean*

**Description** Set to true if the route is the best BGP route amongst all routes received from one particular neighbor AS

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number* [group-best](#) *boolean*

**Tree** [group-best](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## invalid-reason

**Description** Enter the invalid-reason context

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [invalid-reason](#)

**Tree** [invalid-reason](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## as-loop *boolean*

**Description** Indicates true if the BGP route has an AS path loop that exceeds the configured threshold.

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [invalid-reason](#) [as-loop](#) [boolean](#)

**Tree** [as-loop](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## cluster-loop *boolean*

**Description** Indicates true if the BGP route has a cluster-list loop.

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [invalid-reason](#) [cluster-loop](#) [boolean](#)

**Tree** [cluster-loop](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### next-hop-unresolved *boolean*

**Description** Indicates true if the BGP route has a BGP next-hop that cannot be resolved to an outgoing interface.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [invalid-reason](#) [next-hop-unresolved](#) *boolean*

**Tree** [next-hop-unresolved](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### rejected-route *boolean*

**Description** Indicates true if the route was rejected by an import policy.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [invalid-reason](#) [rejected-route](#) *boolean*

**Tree** [rejected-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### last-modified *string*

**Description** Time of the last modification of the route stored in the BGP RIB. For a route learned from a BGP neighbor the initial value is the same as last-updatereceived. If an import policy later changed some attribute of the route last-modified would be updated to reflect the time of this change.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [last-modified](#) *string*

**Tree** [last-modified](#)

<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **neighbor-as** *number*

<b>Description</b>	The last external AS to advertise the route into the local AS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <b>neighbor-as</b> <i>number</i>
<b>Tree</b>	<a href="#">neighbor-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **pending-delete** *boolean*

<b>Description</b>	Set to true if the route is marked for deletion.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <b>pending-delete</b> <i>boolean</i>
<b>Tree</b>	<a href="#">pending-delete</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **stale-route** *boolean*

<b>Description</b>	Set to true if the route is stale due to BGP graceful restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <b>stale-route</b> <i>boolean</i>



<b>Tree</b>	<a href="#">stale-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **tie-break-reason** *keyword*

<b>Description</b>	Indicates the reason why a BGP route is sorted behind the next best route. The BGP best path displays a value of 'none'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i> <b>tie-break-reason</b> <i>keyword</i>
<b>Tree</b>	<a href="#">tie-break-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• unknown</li> <li>• none</li> <li>• origin</li> <li>• as-path-length</li> <li>• next-hop-cost</li> <li>• med</li> <li>• local-pref</li> <li>• aggregate</li> <li>• originator-id</li> <li>• cluster-list</li> <li>• extended-community</li> <li>• aigp</li> <li>• missing-attribute</li> <li>• rtm-pref</li> <li>• owner</li> <li>• eigrp-labeled</li> <li>• vpn-route</li> <li>• ebgp-route</li> <li>• peer-ip</li> <li>• local-peer</li> <li>• multi-path</li> <li>• vpn-rd</li> <li>• next-hop-type</li> </ul>

- invalid-route
- origin-validation
- long-live-gr-stale
- default-originate
- rtm-install-disabled
- peer-router-id
- path-identifier

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**used-route** *boolean***Description**

Indicates true if the route is being used for forwarding.

**Context**

[network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [used-route](#) *boolean*

**Tree**[used-route](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**valid-route** *boolean***Description**

Indicates true if the route is valid.

**Context**

[network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv4-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [valid-route](#) *boolean*

**Tree**[valid-route](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**rib-in-pre**

<b>Description</b>	Container for the pre-import-policy version of BGP routes learned from BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a>
<b>Tree</b>	<a href="#">rib-in-pre</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** [prefix](#) (*ipv4-prefix | ipv6-prefix*) [neighbor](#) (*ipv4-address-with-zone | ipv6-address-with-zone*) [path-id](#) *number*

<b>Description</b>	List of IPv4 routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix   ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">path-id</a> <i>number</i>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**prefix** (*ipv4-prefix | ipv6-prefix*)

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix   ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**neighbor** (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### path-id number

<b>Description</b>	Path identifier of the BGP route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### attr-id reference

<b>Description</b>	Leaf reference to networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i> <a href="#">attr-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">attr-id</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <i>index</i> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### rib-out-post

<b>Description</b>	Container for the post-export-policy version of BGP routes advertised to BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a>
<b>Tree</b>	<a href="#">rib-out-post</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **routes** *prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone | ipv6-address-with-zone) path-id number*

<b>Description</b>	List of IPv4 routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix (ipv4-prefix   ipv6-prefix)</a> <a href="#">neighbor (ipv4-address-with-zone   ipv6-address-with-zone)</a> <a href="#">path-id</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **prefix** *(ipv4-prefix | ipv6-prefix)*

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix (ipv4-prefix   ipv6-prefix)</a> <a href="#">neighbor (ipv4-address-with-zone   ipv6-address-with-zone)</a> <a href="#">path-id</a> <a href="#">number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **neighbor** *(ipv4-address-with-zone | ipv6-address-with-zone)*

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix (ipv4-prefix   ipv6-prefix)</a> <a href="#">neighbor (ipv4-address-with-zone   ipv6-address-with-zone)</a> <a href="#">path-id</a> <a href="#">number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**path-id number**

<b>Description</b>	Path identifier of the BGP route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**attr-id reference**

<b>Description</b>	Leaf reference to networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i> <a href="#">attr-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">attr-id</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**ipv6-unicast**

<b>Description</b>	Container for RIB state of IPv6-unicast routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## local-rib

<b>Description</b>	Container for local RIB, containing all imported routes from other protocols plus the post-import-policy version of all IPv4 routes learned from all BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a>
<b>Tree</b>	<a href="#">local-rib</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** [prefix](#) (*ipv4-prefix* | *ipv6-prefix*) [neighbor](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [origin-protocol](#) [identityref](#) [path-id](#) *number*

<b>Description</b>	List of IPv6 routes in the local RIB.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**prefix** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**neighbor** (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix   ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**origin-protocol** *identityref*

<b>Description</b>	If the route was imported from another protocol, this is the protocol name.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix   ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>aggregate</b> Locally configured aggregate route</li> <li>• <b>arp-nd</b> IP route added by ARP ND.</li> <li>• <b>bgp</b> Border Gateway Protocol version 4</li> <li>• <b>bgp-evpn</b> BGP Ethernet VPN (EVPN)</li> <li>• <b>dhcp</b> IP (default) route added by DHCP.</li> <li>• <b>gribi</b> A gRIBI route</li> <li>• <b>host</b> A host route</li> <li>• <b>isis</b> IS-IS</li> <li>• <b>local</b> A directly connected route</li> <li>• <b>linux</b></li> </ul>



- IP route added by the linux kernel.
- ndk1  
Route added by an agent application using the NDK
- ndk2  
Route added by an agent application using the NDK
- ospfv2  
OSPFv2
- ospfv3  
OSPFv3
- static  
Locally configured static route

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**path-id number****Description**

Path identifier of the BGP route

**Context**

[network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id number](#)

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**attr-id reference****Description**

Leaf reference to networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index

**Context**

[network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id number](#) [attr-id reference](#)

**Tree**[attr-id](#)**Reference**

[network-instance name](#) *string* [bgp-rib](#) [attr-sets](#) [attr-set](#) [index](#) *number*

**Configurable**

False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### best-route *boolean*

**Description** Set to true if the route is the BGP best path for the prefix.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) *number* **best-route** *boolean*

**Tree** [best-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### group-best *boolean*

**Description** Set to true if the route is the best BGP route amongst all routes received from one particular neighbor AS

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) *number* **group-best** *boolean*

**Tree** [group-best](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### invalid-reason

**Description** Enter the invalid-reason context

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) *number* **invalid-reason**

**Tree** [invalid-reason](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### as-loop *boolean*

**Description** Indicates true if the BGP route has an AS path loop that exceeds the configured threshold.

**Context** [network-instance name string](#) [bgp-rib afi-safi afi-safi-name identityref](#) [ipv6-unicast local-rib routes prefix \(ipv4-prefix | ipv6-prefix\)](#) [neighbor \(ipv4-address-with-zone | ipv6-address-with-zone\)](#) [origin-protocol identityref](#) [path-id number invalid-reason as-loop boolean](#)

**Tree** [as-loop](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### cluster-loop *boolean*

**Description** Indicates true if the BGP route has a cluster-list loop.

**Context** [network-instance name string](#) [bgp-rib afi-safi afi-safi-name identityref](#) [ipv6-unicast local-rib routes prefix \(ipv4-prefix | ipv6-prefix\)](#) [neighbor \(ipv4-address-with-zone | ipv6-address-with-zone\)](#) [origin-protocol identityref](#) [path-id number invalid-reason cluster-loop boolean](#)

**Tree** [cluster-loop](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### next-hop-unresolved *boolean*

**Description** Indicates true if the BGP route has a BGP next-hop that cannot be resolved to an outgoing interface.

**Context** [network-instance name string](#) [bgp-rib afi-safi afi-safi-name identityref](#) [ipv6-unicast local-rib routes prefix \(ipv4-prefix | ipv6-prefix\)](#) [neighbor \(ipv4-address-with-zone | ipv6-address-with-zone\)](#) [origin-protocol identityref](#) [path-id number invalid-reason next-hop-unresolved boolean](#)

**Tree** [next-hop-unresolved](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### rejected-route *boolean*

**Description** Indicates true if the route was rejected by an import policy.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [invalid-reason](#) [rejected-route](#) *boolean*

**Tree** [rejected-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### last-modified *string*

**Description** Time of the last modification of the route stored in the BGP RIB. For a route learned from a BGP neighbor the initial value is the same as last-updatereceived. If an import policy later changed some attribute of the route last-modified would be updated to reflect the time of this change.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [last-modified](#) *string*

**Tree** [last-modified](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### neighbor-as *number*

**Description** The last external AS to advertise the route into the local AS

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [local-rib](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [origin-protocol](#) [identityref](#) [path-id](#) [number](#) [neighbor-as](#) *number*

<b>Tree</b>	<a href="#">neighbor-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **pending-delete** *boolean*

<b>Description</b>	Set to true if the route is marked for deletion.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i> <a href="#">pending-delete</a> <i>boolean</i>
<b>Tree</b>	<a href="#">pending-delete</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **stale-route** *boolean*

<b>Description</b>	Set to true if the route is stale due to BGP graceful restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i> <a href="#">stale-route</a> <i>boolean</i>
<b>Tree</b>	<a href="#">stale-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **tie-break-reason** *keyword*

<b>Description</b>	Indicates the reason why a BGP route is sorted behind the next best route. The BGP best path displays a value of 'none'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <i>number</i> <a href="#">tie-break-reason</a> <i>keyword</i>

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<b>Tree</b>	<a href="#">tie-break-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• unknown</li> <li>• none</li> <li>• origin</li> <li>• as-path-length</li> <li>• next-hop-cost</li> <li>• med</li> <li>• local-pref</li> <li>• aggregate</li> <li>• originator-id</li> <li>• cluster-list</li> <li>• extended-community</li> <li>• aigp</li> <li>• missing-attribute</li> <li>• rtm-pref</li> <li>• owner</li> <li>• eigrp-labeled</li> <li>• vpn-route</li> <li>• ebgp-route</li> <li>• peer-ip</li> <li>• local-peer</li> <li>• multi-path</li> <li>• vpn-rd</li> <li>• next-hop-type</li> <li>• invalid-route</li> <li>• origin-validation</li> <li>• long-live-gr-stale</li> <li>• default-originate</li> <li>• rtm-install-disabled</li> <li>• peer-router-id</li> <li>• path-identifier</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**used-route** *boolean*

<b>Description</b>	Indicates true if the route is being used for forwarding.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <a href="#">number</a> <a href="#">used-route</a> <i>boolean</i>
<b>Tree</b>	<a href="#">used-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**valid-route** *boolean*

<b>Description</b>	Indicates true if the route is valid.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">local-rib</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">origin-protocol</a> <a href="#">identityref</a> <a href="#">path-id</a> <a href="#">number</a> <a href="#">valid-route</a> <i>boolean</i>
<b>Tree</b>	<a href="#">valid-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**rib-in-out**

<b>Description</b>	Container for BGP routes learned and advertised to BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a>
<b>Tree</b>	<a href="#">rib-in-out</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**rib-in-post**

<b>Description</b>	Container for the post-import-policy version of BGP routes learned from BGP neighbors.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a>
<b>Tree</b>	<a href="#">rib-in-post</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number*

<b>Description</b>	List of IPv6 routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**prefix** ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**neighbor** ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#))

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### path-id number

**Description** Path identifier of the BGP route

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### attr-id reference

**Description** Leaf reference to networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [attr-id](#) [reference](#)

**Tree** [attr-id](#)

**Reference** [network-instance name](#) *string* [bgp-rib](#) [attr-sets](#) [attr-set](#) [index](#) [number](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### best-route boolean

**Description** Set to true if the route is the BGP best path for the prefix.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [best-route](#) [boolean](#)

**Tree** [best-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**group-best** *boolean*

<b>Description</b>	Set to true if the route is the best BGP route amongst all routes received from one particular neighbor AS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">group-best</a> <i>boolean</i>
<b>Tree</b>	<a href="#">group-best</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**invalid-reason**

<b>Description</b>	Enter the invalid-reason context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">invalid-reason</a>
<b>Tree</b>	<a href="#">invalid-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**as-loop** *boolean*

<b>Description</b>	Indicates true if the BGP route has an AS path loop that exceeds the configured threshold.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">invalid-reason</a> <a href="#">as-loop</a> <i>boolean</i>
<b>Tree</b>	<a href="#">as-loop</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**cluster-loop** *boolean*

<b>Description</b>	Indicates true if the BGP route has a cluster-list loop.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">invalid-reason</a> <a href="#">cluster-loop</a> <i>boolean</i>
<b>Tree</b>	<a href="#">cluster-loop</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**next-hop-unresolved** *boolean*

<b>Description</b>	Indicates true if the BGP route has a BGP next-hop that cannot be resolved to an outgoing interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">invalid-reason</a> <a href="#">next-hop-unresolved</a> <i>boolean</i>
<b>Tree</b>	<a href="#">next-hop-unresolved</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**rejected-route** *boolean*

<b>Description</b>	Indicates true if the route was rejected by an import policy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">invalid-reason</a> <a href="#">rejected-route</a> <i>boolean</i>
<b>Tree</b>	<a href="#">rejected-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-modified** *string*

<b>Description</b>	Time of the last modification of the route stored in the BGP RIB. For a route learned from a BGP neighbor the initial value is the same as last-updatereceived. If an import policy later changed some attribute of the route last-modified would be updated to reflect the time of this change.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">last-modified</a> <i>string</i>
<b>Tree</b>	<a href="#">last-modified</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**neighbor-as** *number*

<b>Description</b>	The last external AS to advertise the route into the local AS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">neighbor-as</a> <i>number</i>
<b>Tree</b>	<a href="#">neighbor-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**pending-delete** *boolean*

<b>Description</b>	Set to true if the route is marked for deletion.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <a href="#">number</a> <a href="#">pending-delete</a> <i>boolean</i>
<b>Tree</b>	<a href="#">pending-delete</a>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### stale-route *boolean*

**Description** Set to true if the route is stale due to BGP graceful restart.

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [stale-route](#) [boolean](#)

**Tree** [stale-route](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### tie-break-reason *keyword*

**Description** Indicates the reason why a BGP route is sorted behind the next best route. The BGP best path displays a value of 'none'.

**Context** [network-instance name](#) [string](#) [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-in-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) [number](#) [tie-break-reason](#) [keyword](#)

**Tree** [tie-break-reason](#)

**Options**

- unknown
- none
- origin
- as-path-length
- next-hop-cost
- med
- local-pref
- aggregate
- originator-id
- cluster-list
- extended-community
- aigp
- missing-attribute

- rtm-pref
- owner
- eigrp-labeled
- vpn-route
- ebgp-route
- peer-ip
- local-peer
- multi-path
- vpn-rd
- next-hop-type
- invalid-route
- origin-validation
- long-live-gr-stale
- default-originate
- rtm-install-disabled
- peer-router-id
- path-identifier

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**used-route** *boolean***Description**

Indicates true if the route is being used for forwarding.

**Context**

[network-instance name](#) *string* [bgp-rib afi-safi afi-safi-name](#) *identityref* [ipv6-unicast rib-in-out rib-in-post routes prefix \(ipv4-prefix | ipv6-prefix\)](#) [neighbor \(ipv4-address-with-zone | ipv6-address-with-zone\)](#) [path-id number](#) [used-route](#) *boolean*

**Tree**[used-route](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**valid-route** *boolean***Description**

Indicates true if the route is valid.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i> <a href="#">valid-route</a> <i>boolean</i>
<b>Tree</b>	<a href="#">valid-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## rib-in-pre

<b>Description</b>	Container for the pre-import-policy version of BGP routes learned from BGP neighbors.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a>
<b>Tree</b>	<a href="#">rib-in-pre</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number*

<b>Description</b>	List of IPv6 routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	Enter the prefix context
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **neighbor** ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#))

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **path-id** *number*

<b>Description</b>	Path identifier of the BGP route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **attr-id** *reference*

<b>Description</b>	Leaf reference to <code>networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index</code> .
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-in-pre</a> <a href="#">routes</a> <a href="#">prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">neighbor</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">path-id</a> <i>number</i> <a href="#">attr-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">attr-id</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## rib-out-post

**Description** Container for the post-export-policy version of BGP routes advertised to BGP neighbors.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-out-post](#)

**Tree** [rib-out-post](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**routes** [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number*

**Description** List of IPv6 routes.

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-out-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number*

**Tree** [routes](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## prefix ([ipv4-prefix](#) | [ipv6-prefix](#))

**Description** Enter the prefix context

**Context** [network-instance name](#) *string* [bgp-rib](#) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast](#) [rib-in-out](#) [rib-out-post](#) [routes](#) [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#)) [neighbor](#) ([ipv4-address-with-zone](#) | [ipv6-address-with-zone](#)) [path-id](#) *number*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**neighbor** (*ipv4-address-with-zone* | *ipv6-address-with-zone*)

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**path-id** *number*

<b>Description</b>	Path identifier of the BGP route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">path-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**attr-id** *reference*

<b>Description</b>	Leaf reference to <a href="#">networkinstance/protocols/bgp/rib/ attr-sets/attr-set/index</a> .
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast</a> <a href="#">rib-in-out</a> <a href="#">rib-out-post</a> <a href="#">routes</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">neighbor</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">path-id</a> <i>number</i> <a href="#">attr-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">attr-id</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**attr-sets**

<b>Description</b>	Container for BGP RIB path attribute sets that can be shared by one or more BGP routes.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a>
<b>Tree</b>	<a href="#">attr-sets</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**attr-set** *index number*

<b>Description</b>	List of attribute sets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <i>index number</i>
<b>Tree</b>	<a href="#">attr-set</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**index** *number*

<b>Description</b>	A unique internal identifier of the attribute set.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <i>index number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**aggregator**

<b>Description</b>	Enter the aggregator context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <i>index number</i> <a href="#">aggregator</a>
<b>Tree</b>	<a href="#">aggregator</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The router ID of the BGP router that formed the aggregate route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <i>index number</i> <a href="#">aggregator</a> <a href="#">address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **as-number** *number*

**Description** The 2byte or 4byte AS number of the router that formed the aggregate route.

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [aggregator as-number](#) *number*

**Tree** [as-number](#)

**Range** 1 to 4294967295

**Configurable** False

**Platforms** Supported on all platforms

### **aigp** *number*

**Description** The value in the AIGP path attribute.

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [aigp](#) *number*

**Tree** [aigp](#)

**Configurable** False

**Platforms** Supported on all platforms

### **as-path**

**Description** A container for the AS path attribute of the attribute set.

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [as-path](#)

**Tree** [as-path](#)

**Configurable** False

**Platforms** Supported on all platforms

### **segment** [as-path-index](#) *number*

**Description** A list of segments. Each segment has a type and a list of one or more AS numbers.

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [as-path segment as-path-index](#) *number*

**Tree** [segment](#)

**Configurable** False

**Platforms** Supported on all platforms

### **as-path-index** *number*

**Description** RIB attribute AS Path index

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [as-path segment as-path-index](#) *number*

**Configurable** False

**Platforms** Supported on all platforms

### **member** *number*

**Description** A list of AS numbers (each of which is a 2byte-ASN or a 4byte-ASN) that belong to the AS path segment.

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [as-path segment as-path-index](#) *number* [member](#) *number*

**Tree** [member](#)

**Configurable** False

**Platforms** Supported on all platforms

### **type** *keyword*

**Description** The type of the AS path segment.

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number* [as-path segment as-path-index](#) *number* [type](#) *keyword*

**Tree** [type](#)

**Options**

- as-set
- as-sequence
- as-confed-sequence
- as-confed-set

**Configurable** False

**Platforms** Supported on all platforms

### **atomic-aggregate** *boolean*

**Description** Set to true to indicate the presence of the ATOMIC\_AGGREGATE path attribute.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">atomic-aggregate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">atomic-aggregate</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **cluster-list** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The list of IPv4 addresses in the CLUSTER_LIST path attribute.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">cluster-list</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">cluster-list</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **communities**

<b>Description</b>	Container for different types of BGP communities
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">communities</a>
<b>Tree</b>	<a href="#">communities</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **community** *string*

<b>Description</b>	List of standard 4-byte community values in the COMMUNITY path attribute. Each should be displayed in the format <0..65535>:<0..65535>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">communities community</a> <i>string</i>
<b>Tree</b>	<a href="#">community</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ext-community** *string*

<b>Description</b>	List of extended 8-byte community values in the COMMUNITY path attribute.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">communities ext-community</a> <i>string</i>
<b>Tree</b>	<a href="#">ext-community</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **large-community** *string*

<b>Description</b>	List of large 12-byte community values in the LARGE_COMMUNITY path attribute. Each should be displayed in the format: <0..4294967295>:<0..4294967295>:< 0..4294967295>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">communities large-community</a> <i>string</i>
<b>Tree</b>	<a href="#">large-community</a>
<b>String Length</b>	1 to 72
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **local-pref** *number*

<b>Description</b>	The value of the LOCAL_PREF path attribute.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">local-pref</a> <i>number</i>
<b>Tree</b>	<a href="#">local-pref</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **med** *number*

<b>Description</b>	The value of the MULTI_EXIT_DISC path attribute.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">med</a> <i>number</i>
<b>Tree</b>	<a href="#">med</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop** (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	The IPv4 or IPv6 address of the BGP next-hop (extracted from the NEXT_HOP field of the UPDATE or the MP_REACH_NLRI next-hop).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">next-hop</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> )
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**origin keyword**

<b>Description</b>	The value of the ORIGIN path attribute
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">origin keyword</a>
<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• igp</li> <li>• egp</li> <li>• incomplete</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**originator-id** (*ipv4-address | ipv6-address*)

<b>Description</b>	The address in the ORIGINATOR_ID attribute added by a route reflector.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">originator-id</a> ( <i>ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">originator-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pmsi-tunnel**

<b>Description</b>	A container for the Provider Multicast Service Interface Tunnel Attribute (PTA) of the attribute set.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel</a>
<b>Tree</b>	<a href="#">pmsi-tunnel</a>



<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## flags

<b>Description</b>	A container for the PTA Flags
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel flags</a>
<b>Tree</b>	<a href="#">flags</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## assisted-replication-type *keyword*

<b>Description</b>	The value of the assisted-replication role type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel flags assisted-replication-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">assisted-replication-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• ar-replicator</li> <li>• ar-leaf</li> <li>• reserved</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## leaf-information-required *boolean*

<b>Description</b>	The value of the Leaf Information Required (LIR) flag.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel flags leaf-information-required</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leaf-information-required</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## pruned-flood-list

<b>Description</b>	A container for the optimized ingress replication pruned flood list flags.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel flags</a> <a href="#">pruned-flood-list</a>
<b>Tree</b>	<a href="#">pruned-flood-list</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **broadcast-multicast** *keyword*

<b>Description</b>	The value of the broadcast-multicast flag.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel flags</a> <a href="#">pruned-flood-list</a> <a href="#">broadcast-multicast</a> <i>keyword</i>
<b>Tree</b>	<a href="#">broadcast-multicast</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• 0</li> <li>• 1</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **unknown-unicast** *keyword*

<b>Description</b>	The value of the unknown-unicast flag.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel flags</a> <a href="#">pruned-flood-list</a> <a href="#">unknown-unicast</a> <i>keyword</i>
<b>Tree</b>	<a href="#">unknown-unicast</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• 0</li> <li>• 1</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tunnel-endpoint** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The value of the tunnel-endpoint in the PMSI Tunnel Attribute.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel</a> <a href="#">tunnel-endpoint</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">tunnel-endpoint</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tunnel-type** *keyword*

<b>Description</b>	The value of the tunnel-type in the PMSI Tunnel Attribute
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel tunnel-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">tunnel-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• no-tunnel</li> <li>• rsvp-te-p2mp</li> <li>• mldp-p2mp</li> <li>• pim-ssm</li> <li>• pim-sm</li> <li>• bidir-pim</li> <li>• ingress-replication</li> <li>• mldp-mp2mp</li> <li>• assisted-replication</li> <li>• bier</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vni** *number*

<b>Description</b>	The VXLAN Network Identifier
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">pmsi-tunnel vni</a> <i>number</i>
<b>Tree</b>	<a href="#">vni</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**unknown-attributes**

<b>Description</b>	Container for unknown path attributes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">unknown-attributes</a>
<b>Tree</b>	<a href="#">unknown-attributes</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **unknown-attribute** *unknown-attr-index number*

**Description** List of unknown BGP path attributes

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number*  
[unknown-attributes unknown-attribute unknown-attr-index](#) *number*

**Tree** [unknown-attribute](#)

**Configurable** False

**Platforms** Supported on all platforms

### **unknown-attr-index** *number*

**Description** RIB attribute unknown attribute index

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number*  
[unknown-attributes unknown-attribute unknown-attr-index](#) *number*

**Configurable** False

**Platforms** Supported on all platforms

### **attr-len** *number*

**Description** The length of the unknown path attribute

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number*  
[unknown-attributes unknown-attribute unknown-attr-index](#) *number* [attr-len](#) *number*

**Tree** [attr-len](#)

**Configurable** False

**Platforms** Supported on all platforms

### **attr-type** *number*

**Description** The type code of the unknown path attribute

**Context** [network-instance name](#) *string* [bgp-rib attr-sets attr-set index](#) *number*  
[unknown-attributes unknown-attribute unknown-attr-index](#) *number* [attr-type](#) *number*

**Tree** [attr-type](#)

**Configurable** False

**Platforms** Supported on all platforms

**extended *boolean***

<b>Description</b>	Set to true if the unknown path attribute has the extended length flag is set to 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">unknown-attributes unknown-attribute unknown-attr-index</a> <i>number</i> <i>extended boolean</i>
<b>Tree</b>	<a href="#">extended</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**optional *boolean***

<b>Description</b>	Set to true if the unknown path attribute has the optional flag is set to 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">unknown-attributes unknown-attribute unknown-attr-index</a> <i>number</i> <i>optional boolean</i>
<b>Tree</b>	<a href="#">optional</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**partial *boolean***

<b>Description</b>	Set to true if the unknown path attribute has the partial flag is set to 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">unknown-attributes unknown-attribute unknown-attr-index</a> <i>number</i> <i>partial boolean</i>
<b>Tree</b>	<a href="#">partial</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**transitive *boolean***

<b>Description</b>	Set to true if the unknown path attribute has the transitive flag is set to 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bgp-rib attr-sets attr-set index</a> <i>number</i> <a href="#">unknown-attributes unknown-attribute unknown-attr-index</a> <i>number</i> <i>transitive boolean</i>
<b>Tree</b>	<a href="#">transitive</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bridge-table

<b>Description</b>	Enable the bridge-table context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## discard-unknown-dest-mac *boolean*

<b>Description</b>	Discard frames with unknown destination mac addresses. The source mac address of the discarded frame is learned as long as the mac is valid, mac-learning is enabled, and the number of entries has not reached the maximum-entries threshold.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">discard-unknown-dest-mac</a> <i>boolean</i>
<b>Tree</b>	<a href="#">discard-unknown-dest-mac</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## mac-duplication

<b>Description</b>	Configuration of the MAC duplication procedures.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a>
<b>Tree</b>	<a href="#">mac-duplication</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**action** *keyword*

<b>Description</b>	Action to take on the subinterface (if action is use-net-instance-action) upon detecting at least one mac addresses as duplicate on the subinterface. In particular:
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">action</a> <i>keyword</i>
<b>Tree</b>	<a href="#">action</a>
<b>Default</b>	stop-learning
<b>Options</b>	<ul style="list-style-type: none"> <li>• stop-learning</li> <li>• blackhole</li> <li>• oper-down</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**admin-state** *keyword*

<b>Description</b>	Configurable state of the mac-duplication procedures. Mac-duplication detects duplicate macs that move between different subinterfaces or a subinterface and an evpn destination.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**duplicate-entries**

<b>Description</b>	Enter the duplicate-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a>
<b>Tree</b>	<a href="#">duplicate-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac address string**

<b>Description</b>	macs duplicate on the bridging instance
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">bridge-table mac-duplication duplicate-entries mac address string</a>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**address string**

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">bridge-table mac-duplication duplicate-entries mac address string</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**destination string**

<b>Description</b>	the name of the destination the duplicate mac is installed against in the fdb.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">bridge-table mac-duplication duplicate-entries mac address string destination string</a>
<b>Tree</b>	<a href="#">destination</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**destination-index number**

<b>Description</b>	A system-wide unique identifier of a subinterface object (system allocated).
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">bridge-table mac-duplication duplicate-entries mac address string destination-index number</a>
<b>Tree</b>	<a href="#">destination-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2



**destination-type** *keyword*

<b>Description</b>	the type of the destination the duplicate mac is installed against in the fdb.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">destination-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">destination-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• sub-interface</li> <li>• blackhole</li> <li>• irb-interface</li> <li>• vxlan</li> <li>• reserved</li> <li>• evpn-mpls</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**dup-detect-time** *string*

<b>Description</b>	The date and time when the mac was declared duplicate
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">dup-detect-time</a> <i>string</i>
<b>Tree</b>	<a href="#">dup-detect-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**hold-down-time-remaining** (*keyword* | *number*)

<b>Description</b>	remaining hold down time for duplicate mac
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">hold-down-time-remaining</a> ( <i>keyword</i>   <i>number</i> )
<b>Tree</b>	<a href="#">hold-down-time-remaining</a>
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>• indefinite</li> </ul>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **hold-down-time** (*keyword | number*)

**Description** Time to wait from the moment a mac is declared duplicate to the mac is flushed from the bridge table. When the duplicate mac is flushed, the monitoring process for the mac is restarted.

**Context** [network-instance name](#) *string* [bridge-table mac-duplication hold-down-time](#) (*keyword | number*)

**Tree** [hold-down-time](#)

**Range** 2 to 60

**Default** 9

**Units** minutes

**Options**

- indefinite

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **monitoring-window** *number*

**Description** Monitoring window for detecting duplication on a given mac address. A mac is declared as duplicate if it exceeds the num-moves within the monitoring-window.

**Context** [network-instance name](#) *string* [bridge-table mac-duplication monitoring-window](#) *number*

**Tree** [monitoring-window](#)

**Range** 1 to 15

**Default** 3

**Units** minutes

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **num-moves** *number*

**Description** Number of moves a mac is allowed within the monitoring-window, before it is declared duplicate.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">num-moves</a> <i>number</i>
<b>Tree</b>	<a href="#">num-moves</a>
<b>Range</b>	3 to 10
<b>Default</b>	5
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## mac-learning

<b>Description</b>	Enter the mac-learning context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a>
<b>Tree</b>	<a href="#">mac-learning</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## admin-state *keyword*

<b>Description</b>	Configurable state of the learning procedures for dynamic mac addresses. If disabled, the existing macs in the bridge-table will be kept (and refreshed if new frames arrive for them) but no new mac addresses will be learned. Frames with unknown mac addresses are not dropped, unless discard-unknown-src-mac is configured.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## aging

<b>Description</b>	Enter the aging context
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">aging</a>
<b>Tree</b>	<a href="#">aging</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **admin-state** *keyword*

<b>Description</b>	Configurable state of the aging for the dynamic mac entries in the bridge table. If disabled, dynamically learned mac entries will be programmed in the bridge table until the network instance is disabled.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">aging</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **age-time** *number*

<b>Description</b>	Configurable aging time for dynamically learned mac addresses
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">aging</a> <a href="#">age-time</a> <i>number</i>
<b>Tree</b>	<a href="#">age-time</a>
<b>Range</b>	60 to 86400
<b>Default</b>	300
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **learnt-entries**

<b>Description</b>	Enter the learnt-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a>

<b>Tree</b>	<a href="#">learnt-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### mac [address string](#)

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">network-instance name string bridge-table mac-learning learnt-entries mac address string</a>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### address [string](#)

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name string bridge-table mac-learning learnt-entries mac address string</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### aging ([number](#) | [keyword](#))

<b>Description</b>	remaining age time for learnt macs
<b>Context</b>	<a href="#">network-instance name string bridge-table mac-learning learnt-entries mac address string aging (number   keyword)</a>
<b>Tree</b>	<a href="#">aging</a>
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>disabled</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**destination** *string*

<b>Description</b>	the name of the subinterface where the mac is learnt against.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">destination</a> <i>string</i>
<b>Tree</b>	<a href="#">destination</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this learnt mac
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac-relearn-only** *boolean*

<b>Description</b>	The value of this leaf indicates that network-instance will not learn any new mac addresses, but will relearn any that are already programmed
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">mac-relearn-only</a> <i>boolean</i>
<b>Tree</b>	<a href="#">mac-relearn-only</a>
<b>Default</b>	true
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**oper-mac-learning** *keyword*

<b>Description</b>	The operational state of mac-learning on this network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">oper-mac-learning</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-mac-learning</a>

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<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**oper-mac-learning-disabled-reason** *keyword*

<b>Description</b>	The reason for the mac-learning being disabled on this network instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">oper-mac-learning-disabled-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-mac-learning-disabled-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>admin-disabled</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac-limit**

<b>Description</b>	Bridge Table size and thresholds.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-limit</a>
<b>Tree</b>	<a href="#">mac-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**maximum-entries** *number*

<b>Description</b>	Maximum number of mac addresses allowed in the bridge-table.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-limit</a> <a href="#">maximum-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-entries</a>
<b>Range</b>	1 to 8192
<b>Default</b>	250
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**warning-threshold-pct** *number*

<b>Description</b>	Percentage of the configured max-number-macs over which a warning is triggered. The warning message is cleared when the percentage drops below the configured percentage minus 5%
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-limit</a> <a href="#">warning-threshold-pct</a> <i>number</i>



<b>Tree</b>	<a href="#">warning-threshold-pct</a>
<b>Range</b>	6 to 100
<b>Default</b>	95
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## mac-table

<b>Description</b>	Enter the mac-table context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a>
<b>Tree</b>	<a href="#">mac-table</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## mac [address](#) *string*

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## address *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## destination *string*

<b>Description</b>	the name of the destination where the mac is programmed against.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">destination</a> <i>string</i>
<b>Tree</b>	<a href="#">destination</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **destination-index** *number*

<b>Description</b>	A system-wide unique identifier of a subinterface object (system allocated).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">destination-index</a> <i>number</i>
<b>Tree</b>	<a href="#">destination-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **destination-type** *keyword*

<b>Description</b>	the type of the destination the mac installed against in the fdb.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">destination-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">destination-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• sub-interface</li> <li>• blackhole</li> <li>• irb-interface</li> <li>• vxlan</li> <li>• reserved</li> <li>• evpn-mpls</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **failed-slots** *number*

<b>Description</b>	The list of slot IDs corresponding to the linecards that did not successfully program the mac
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">failed-slots</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-slots</a>
<b>Range</b>	1 to 8
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**is-protected** *boolean*

<b>Description</b>	Indicates if the mac is protected in the hardware.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">is-protected</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-protected</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this mac
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**not-programmed-reason** *keyword*

<b>Description</b>	The reason why the mac is not programmed
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <a href="#">not-programmed-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• mac-limit</li> <li>• failed-on-slots</li> <li>• no-destination-index</li> </ul>

	<ul style="list-style-type: none"> <li>reserved</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **type** *keyword*

<b>Description</b>	the type of the mac installed in the fib.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-table</a> <a href="#">mac address</a> <i>string</i> <i>type keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>static</li> <li>duplicate</li> <li>learnt</li> <li>irb-interface</li> <li>evpn</li> <li>evpn-static</li> <li>irb-interface-anycast</li> <li>proxy-anti-spoof</li> <li>reserved</li> <li>eth-cfm</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **protect-anycast-gw-mac** *boolean*

<b>Description</b>	Protect anycast gateway mac's installed in the FDB, when this mac-vrf is part of an IRB.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">protect-anycast-gw-mac</a> <i>boolean</i>
<b>Tree</b>	<a href="#">protect-anycast-gw-mac</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**proxy-arp**

<b>Description</b>	Enable the proxy-arp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a>
<b>Tree</b>	<a href="#">proxy-arp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**admin-state** *keyword*

<b>Description</b>	Configurable state of the layer-2 proxy ARP/ND table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**duplicate-entries**

<b>Description</b>	Enter the duplicate-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate-entries</a>
<b>Tree</b>	<a href="#">duplicate-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**neighbor** [ipv4-address](#) *string*

<b>Description</b>	List of duplicate proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### ipv4-address *string*

**Description** IPv4 address of the proxy ARP entry

**Context** [network-instance name \*string\*](#) [bridge-table proxy-arp duplicate-entries neighbor ipv4-address \*string\*](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### detect-time *string*

**Description** The date and time when the proxy entry was declared duplicate

**Context** [network-instance name \*string\*](#) [bridge-table proxy-arp duplicate-entries neighbor ipv4-address \*string\*](#) [detect-time \*string\*](#)

**Tree** [detect-time](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### hold-down-time-remaining (*keyword* | *number*)

**Description** Remaining hold down time for the duplicate proxy entry

**Context** [network-instance name \*string\*](#) [bridge-table proxy-arp duplicate-entries neighbor ipv4-address \*string\*](#) [hold-down-time-remaining \(\*keyword\* | \*number\*\)](#)

**Tree** [hold-down-time-remaining](#)

**Units** seconds

**Options**

- indefinite

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### is-immutable *boolean*

**Description** The immutable property of the proxy entry

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### link-layer-address *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### state *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### dynamic-entries

<b>Description</b>	Enter the dynamic-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic-entries</a>
<b>Tree</b>	<a href="#">dynamic-entries</a>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **neighbor ipv4-address** *string*

**Description** List of dynamic proxy ARP entries

**Context** [network-instance name](#) *string* [bridge-table proxy-arp dynamic-entries neighbor ipv4-address](#) *string*

**Tree** [neighbor](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv4-address** *string*

**Description** IPv4 address of the proxy ARP entry

**Context** [network-instance name](#) *string* [bridge-table proxy-arp dynamic-entries neighbor ipv4-address](#) *string*

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **aging** (*number* | *keyword*)

**Description** The remaining age time for learnt proxy entry

**Context** [network-instance name](#) *string* [bridge-table proxy-arp dynamic-entries neighbor ipv4-address](#) *string* [aging](#) (*number* | *keyword*)

**Tree** [aging](#)

**Units** seconds

**Options**

- disabled

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **is-immutable** *boolean*

**Description** The immutable property of the proxy entry



<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp dynamic-entries neighbor ipv4-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp dynamic-entries neighbor ipv4-address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp dynamic-entries neighbor ipv4-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp dynamic-entries neighbor ipv4-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> </ul>

	<ul style="list-style-type: none"> <li>pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## dynamic-learning

<b>Description</b>	Enter the dynamic-learning context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic-learning</a>
<b>Tree</b>	<a href="#">dynamic-learning</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## admin-state *keyword*

<b>Description</b>	Configurable state of the learning procedures for dynamic ARP/ND entries The dynamic ARP/ND entries are learned out of snooped GARP/ARP/ND messages on bridged sub-interfaces. These entries will be shown as dynamic, as opposed to EVPN entries or static entries. If the admin-state is disabled, the existing ARP/ND entries in the proxy table will be kept (and refreshed).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic-learning</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>enable</li> <li>disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## age-time (*keyword* | *number*)

<b>Description</b>	Aging timer value for the proxy entries When the aging expires, the entry is flushed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic-learning</a> <a href="#">age-time</a> ( <i>keyword</i>   <i>number</i> )

<b>Tree</b>	<a href="#">age-time</a>
<b>Range</b>	60 to 86400
<b>Default</b>	never
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>• never</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### send-refresh (*number* | *keyword*)

<b>Description</b>	<p>Configures the proxy refresh interval</p> <p>The interval determines the frequency at which the system generates three ARP Requests or Neighbor Solicitations with the intent to refresh the proxy entry. The refresh is sent within the age-time window.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp dynamic-learning send-refresh</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">send-refresh</a>
<b>Range</b>	120 to 86400
<b>Default</b>	never
<b>Options</b>	<ul style="list-style-type: none"> <li>• never</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### evpn

<b>Description</b>	How proxy arp interacts with evpn
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**flood**

<b>Description</b>	How ARP frames received on a proxy service are flooded into the EVPN network
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp evpn flood</a>
<b>Tree</b>	<a href="#">flood</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**gratuitous-arp** *boolean*

<b>Description</b>	Whether to flood GARP requests or replies into EVPN
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp evpn flood gratuitous-arp</a> <i>boolean</i>
<b>Tree</b>	<a href="#">gratuitous-arp</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**unknown-arp-req** *boolean*

<b>Description</b>	Whether to flood ARP requests (with source squelching) when there is no hit in the bridge-table-proxy-arp table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp evpn flood unknown-arp-req</a> <i>boolean</i>
<b>Tree</b>	<a href="#">unknown-arp-req</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**evpn-entries**

<b>Description</b>	Enter the evpn-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp evpn-entries</a>
<b>Tree</b>	<a href="#">evpn-entries</a>

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### neighbor [ipv4-address](#) *string*

<b>Description</b>	List of EVPN proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### [ipv4-address](#) *string*

<b>Description</b>	IPv4 address of the proxy ARP entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### [is-immutable](#) *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### [last-update](#) *string*

<b>Description</b>	The date and time of the last update of this proxy entry
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">evpn-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">evpn-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">evpn-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ip-duplication**

<b>Description</b>	Configuration of the proxy ARP/ND IP duplication procedures
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">ip-duplication</a>
<b>Tree</b>	<a href="#">ip-duplication</a>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **anti-spoof-mac** *string*

**Description** MAC address associated with the optional anti-spoofing mechanism

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-arp](#) [ip-duplication](#) [anti-spoof-mac](#) *string*

**Tree** [anti-spoof-mac](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **hold-down-time** (*keyword | number*)

**Description** Time to wait from the moment an IP is declared duplicate to the time the IP is removed from the proxy ARP/ND table

When the duplicate IP is removed, the monitoring process for the IP address is restarted.

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-arp](#) [ip-duplication](#) [hold-down-time](#) (*keyword | number*)

**Tree** [hold-down-time](#)

**Range** 2 to 60

**Default** 9

**Units** minutes

**Options**

- indefinite

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **monitoring-window** *number*

**Description** Monitoring window for detecting duplication on a given ip address in the proxy ARP/ND table

An IP is declared duplicate if it exceeds the num-moves within the monitoring-window.

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-arp](#) [ip-duplication](#) [monitoring-window](#) *number*

<b>Tree</b>	<a href="#">monitoring-window</a>
<b>Range</b>	1 to 15
<b>Default</b>	3
<b>Units</b>	minutes
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **num-moves** *number*

<b>Description</b>	Number of moves in the proxy ARP/ND table that an IP is allowed within the monitoring-window  When the number of moves exceeds this value, the IP address is declared duplicate.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">ip-duplication</a> <a href="#">num-moves</a> <i>number</i>
<b>Tree</b>	<a href="#">num-moves</a>
<b>Range</b>	3 to 10
<b>Default</b>	5
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **static-blackhole** *boolean*

<b>Description</b>	Whether the anti-spoof MAC is programmed as a black hole static-mac in the mac-table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">ip-duplication</a> <a href="#">static-blackhole</a> <i>boolean</i>
<b>Tree</b>	<a href="#">static-blackhole</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-down-reason** *keyword*

<b>Description</b>	The reason the proxy-type is down on the network-instance
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">admin-down</a></li> <li>• <a href="#">no-mcid</a></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **process-arp-probes** *boolean*

<b>Description</b>	<p>Determines whether the router processes ARP probe messages.</p> <p>When set to true, ARP probe messages used by the hosts for Duplicate Address Detection are processed, replied if a proxy-arp entry is hit or reinjected into the data path. When set to false, ARP probe messages are flooded to the remote nodes if unknown-arp-requests are configured to be flooded. ARP probe messages are identified as ARP Requests that use IP address 0.0.0.0 as sender's address.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">process-arp-probes</a> <i>boolean</i>
<b>Tree</b>	<a href="#">process-arp-probes</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **static-entries**

<b>Description</b>	Enter the static-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">static-entries</a>
<b>Tree</b>	<a href="#">static-entries</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **neighbor** [ipv4-address](#) *string*

<b>Description</b>	List of static proxy ARP entries that map an IPv4 address to a MAC address
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To configure a static proxy ARP entry a value must be written into this leaf, as well as the link-layer-address leaf.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv4-address** *string*

<b>Description</b>	IPv4 address resolved by the proxy ARP entry To configure a static neighbor entry a value must be written into this leaf, as well as the link-layer-address leaf.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **is-immutable** *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-update** *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### link-layer-address *string*

<b>Description</b>	The resolving MAC address of the proxy entry To configure a static proxy entry a value must be written into this leaf and the ip-address leaf.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp static-entries neighbor ipv4-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### state *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp static-entries neighbor ipv4-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**active-entries** *number*

<b>Description</b>	The total number of active proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**in-active-entries** *number*

<b>Description</b>	The total number of inactive proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**neighbor-origin** [origin](#) *keyword*

<b>Description</b>	The origin of the proxy entry installed in the table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics neighbor-origin</a> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">neighbor-origin</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**origin** *keyword*

<b>Description</b>	Enter the origin context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics neighbor-origin</a> <a href="#">origin</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>static</li> </ul>

	<ul style="list-style-type: none"> <li>dynamic</li> <li>evpn</li> <li>duplicate</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### active-entries *number*

<b>Description</b>	The total number of active proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword</i> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### in-active-entries *number*

<b>Description</b>	The total number of inactive proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword</i> <a href="#">in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### pending-entries *number*

<b>Description</b>	The total number of pending proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword</i> <a href="#">pending-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of proxy ARP entries.

**Context** [network-instance name](#) *string* [bridge-table proxy-arp statistics neighbor-origin origin](#) *keyword* **total-entries** *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **pending-entries** *number*

**Description** The total number of pending proxy ARP entries.

**Context** [network-instance name](#) *string* [bridge-table proxy-arp statistics pending-entries](#) *number*

**Tree** [pending-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of proxy ARP entries.

**Context** [network-instance name](#) *string* [bridge-table proxy-arp statistics total-entries](#) *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**table-entries**

<b>Description</b>	Enter the table-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">table-entries</a>
<b>Tree</b>	<a href="#">table-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**neighbor ipv4-address** *string*

<b>Description</b>	List of static and dynamic proxy ARP entries that map an IPv4 address to a MAC address
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ipv4-address** *string*

<b>Description</b>	IPv4 address resolved by the proxy ARP entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**is-immutable** *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp table-entries neighbor ipv4-address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp table-entries neighbor ipv4-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**origin** *keyword*

<b>Description</b>	The origin of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-arp table-entries neighbor ipv4-address</a> <i>string</i> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> <li>• duplicate</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2



**state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">table-entries</a> <a href="#">neighbor ipv4-address</a> <i>string</i> <b>state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**table-size** *number*

<b>Description</b>	Maximum number of entries allowed in the proxy table of the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <b>table-size</b> <i>number</i>
<b>Tree</b>	<a href="#">table-size</a>
<b>Range</b>	1 to 8192
<b>Default</b>	250
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**trace-options**

<b>Description</b>	Debug trace-options for Proxy-ARP
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <b>trace-options</b>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**flag** *name* *keyword*

<b>Description</b>	Tracing parameters
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">trace-options</a> <a href="#">flag name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">flag</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**name** *keyword*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">trace-options</a> <a href="#">flag name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>request Trace all ARP request protocol packets snooped or generated for proxy-ARP</li> <li>reply Trace all ARP reply protocol packets snooped or generated for proxy-ARP</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**modifier** *keyword*

<b>Description</b>	Enter the modifier context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">trace-options</a> <a href="#">flag name</a> <i>keyword</i> <a href="#">modifier</a> <i>keyword</i>
<b>Tree</b>	<a href="#">modifier</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>detail Enables detailed tracing Includes both, received and sent packets.</li> <li>receive Enables tracing for the received packets</li> <li>send Enables tracing for the sent packets</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## proxy-nd

<b>Description</b>	Enable the proxy-nd context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd</a>
<b>Tree</b>	<a href="#">proxy-nd</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## admin-state *keyword*

<b>Description</b>	Configurable state of the layer-2 proxy ARP/ND table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## duplicate-entries

<b>Description</b>	Enter the duplicate-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd duplicate-entries</a>
<b>Tree</b>	<a href="#">duplicate-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## neighbor [ipv6-address](#) *string*

<b>Description</b>	List of duplicate proxy ND entries
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd duplicate-entries neighbor ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### ipv6-address *string*

<b>Description</b>	IPv6 address of the proxy ND entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd duplicate-entries neighbor</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### detect-time *string*

<b>Description</b>	The date and time when the proxy entry was declared duplicate
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd duplicate-entries neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">detect-time</a> <i>string</i>
<b>Tree</b>	<a href="#">detect-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### evpn-override *boolean*

<b>Description</b>	The evpn-override property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd duplicate-entries neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">evpn-override</a> <i>boolean</i>
<b>Tree</b>	<a href="#">evpn-override</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### hold-down-time-remaining (*keyword* | *number*)

<b>Description</b>	Remaining hold down time for the duplicate proxy entry
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">hold-down-time-remaining</a> ( <i>keyword</i>   <i>number</i> )
<b>Tree</b>	<a href="#">hold-down-time-remaining</a>
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>indefinite</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**is-immutable** *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>active</li> </ul>

	<ul style="list-style-type: none"> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type** *keyword*

<b>Description</b>	The type of the neighbor entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">duplicate-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <i>type</i> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• router</li> <li>• host</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **dynamic-entries**

<b>Description</b>	Enter the dynamic-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">dynamic-entries</a>
<b>Tree</b>	<a href="#">dynamic-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **neighbor** [ipv6-address](#) *string*

<b>Description</b>	List of dynamic proxy ND entries
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">dynamic-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ipv6-address** *string*

<b>Description</b>	IPv6 address of the proxy ND entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">dynamic-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**aging** (*number* | *keyword*)

<b>Description</b>	The remaining age time for learnt proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">dynamic-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">aging</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">aging</a>
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>disabled</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**evpn-override** *boolean*

<b>Description</b>	The evpn-override property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">dynamic-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">evpn-override</a> <i>boolean</i>
<b>Tree</b>	<a href="#">evpn-override</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**is-immutable** *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">dynamic-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>

<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-update** *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd dynamic-entries neighbor ipv6-address</a> <i>string</i> <b>last-update</b> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd dynamic-entries neighbor ipv6-address</a> <i>string</i> <b>link-layer-address</b> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd dynamic-entries neighbor ipv6-address</a> <i>string</i> <b>state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False



**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type** *keyword*

**Description** The type of the neighbor entry

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic-entries](#)  
[neighbor ipv6-address](#) *string* **type** *keyword*

**Tree** [type](#)

**Options**

- router
- host

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **dynamic-learning**

**Description** Enter the dynamic-learning context

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic-learning](#)

**Tree** [dynamic-learning](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **admin-state** *keyword*

**Description** Configurable state of the learning procedures for dynamic ARP/ND entries  
The dynamic ARP/ND entries are learned out of snooped GARP/ARP/ND messages on bridged sub-interfaces. These entries will be shown as dynamic, as opposed to EVPN entries or static entries. If the admin-state is disabled, the existing ARP/ND entries in the proxy table will be kept (and refreshed).

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic-learning](#) [admin-state](#) *keyword*

**Tree** [admin-state](#)

**Default** disable

**Options**

- enable
- disable

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **age-time** (*keyword | number*)

<b>Description</b>	Aging timer value for the proxy entries When the aging expires, the entry is flushed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd dynamic-learning age-time</a> ( <i>keyword   number</i> )
<b>Tree</b>	<a href="#">age-time</a>
<b>Range</b>	60 to 86400
<b>Default</b>	never
<b>Units</b>	seconds
<b>Options</b>	<ul style="list-style-type: none"> <li>• never</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **send-refresh** (*number | keyword*)

<b>Description</b>	Configures the proxy refresh interval The interval determines the frequency at which the system generates three ARP Requests or Neighbor Solicitations with the intend to refresh the proxy entry. The refresh is sent within the age-time window.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd dynamic-learning send-refresh</a> ( <i>number   keyword</i> )
<b>Tree</b>	<a href="#">send-refresh</a>
<b>Range</b>	120 to 86400
<b>Default</b>	never
<b>Options</b>	<ul style="list-style-type: none"> <li>• never</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**evpn**

<b>Description</b>	How proxy ARP/ND interacts with EVPN
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**advertise-neighbor-type** *keyword*

<b>Description</b>	Whether to advertise router entries or host entries into EVPN MAC/IP routes It also specifies whether to reply to Neighbor Solicitations for EVPN entries with the router flag set or unset.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn</a> <a href="#">advertise-neighbor-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">advertise-neighbor-type</a>
<b>Default</b>	router
<b>Options</b>	<ul style="list-style-type: none"> <li>• router</li> <li>• host</li> <li>• router-host</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**flood**

<b>Description</b>	How Neighbor Discovery frames received on a proxy service are flooded into the EVPN network
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn</a> <a href="#">flood</a>
<b>Tree</b>	<a href="#">flood</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**unknown-neighbor-advertise-host** *boolean*

<b>Description</b>	Whether to flood Neighbor Advertisement (NA) replies, for type host, into the EVPN network
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn</a> <a href="#">flood</a> <a href="#">unknown-neighbor-advertise-host</a> <i>boolean</i>
<b>Tree</b>	<a href="#">unknown-neighbor-advertise-host</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**unknown-neighbor-advertise-router** *boolean*

<b>Description</b>	Whether to flood Neighbor Advertisement (NA) replies, for type router, into the EVPN network
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn</a> <a href="#">flood</a> <a href="#">unknown-neighbor-advertise-router</a> <i>boolean</i>
<b>Tree</b>	<a href="#">unknown-neighbor-advertise-router</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**unknown-neighbor-solicitation** *boolean*

<b>Description</b>	Whether to flood Neighbor Solicitation (NS) messages (with source squelching) into the EVPN network
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn</a> <a href="#">flood</a> <a href="#">unknown-neighbor-solicitation</a> <i>boolean</i>
<b>Tree</b>	<a href="#">unknown-neighbor-solicitation</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**evpn-entries**

<b>Description</b>	Enter the evpn-entries context
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a>
<b>Tree</b>	<a href="#">evpn-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **neighbor** [ipv6-address](#) *string*

<b>Description</b>	List of EVPN proxy ND entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv6-address** *string*

<b>Description</b>	IPv6 address of the proxy ND entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **evpn-override** *boolean*

<b>Description</b>	The evpn-override property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">evpn-override</a> <i>boolean</i>
<b>Tree</b>	<a href="#">evpn-override</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**is-immutable** *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**type** *keyword*

<b>Description</b>	The type of the neighbor entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">evpn-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <b>type</b> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• router</li> <li>• host</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ip-duplication**

<b>Description</b>	Configuration of the proxy ARP/ND IP duplication procedures
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">ip-duplication</a>
<b>Tree</b>	<a href="#">ip-duplication</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**anti-spoof-mac** *string*

<b>Description</b>	MAC address associated with the optional anti-spoofing mechanism
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">ip-duplication</a> <a href="#">anti-spoof-mac</a> <i>string</i>
<b>Tree</b>	<a href="#">anti-spoof-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**hold-down-time** (*keyword | number*)

<b>Description</b>	Time to wait from the moment an IP is declared duplicate to the time the IP is removed from the proxy ARP/ND table  When the duplicate IP is removed, the monitoring process for the IP address is restarted.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd ip-duplication hold-down-time</a> ( <i>keyword   number</i> )
<b>Tree</b>	<a href="#">hold-down-time</a>
<b>Range</b>	2 to 60
<b>Default</b>	9
<b>Units</b>	minutes
<b>Options</b>	<ul style="list-style-type: none"> <li>indefinite</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**monitoring-window** *number*

<b>Description</b>	Monitoring window for detecting duplication on a given ip address in the proxy ARP/ND table  An IP is declared duplicate if it exceeds the num-moves within the monitoring-window.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd ip-duplication monitoring-window</a> <i>number</i>
<b>Tree</b>	<a href="#">monitoring-window</a>
<b>Range</b>	1 to 15
<b>Default</b>	3
<b>Units</b>	minutes
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**num-moves** *number*

<b>Description</b>	Number of moves in the proxy ARP/ND table that an IP is allowed within the monitoring-window
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When the number of moves exceeds this value, the IP address is declared duplicate.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd ip-duplication num-moves</a> <i>number</i>
<b>Tree</b>	<a href="#">num-moves</a>
<b>Range</b>	3 to 10
<b>Default</b>	5
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **static-blackhole** *boolean*

<b>Description</b>	Whether the anti-spoof MAC is programmed as a black hole static-mac in the mac-table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd ip-duplication static-blackhole</a> <i>boolean</i>
<b>Tree</b>	<a href="#">static-blackhole</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-down-reason** *keyword*

<b>Description</b>	The reason the proxy-type is down on the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• admin-down</li> <li>• no-mcid</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**process-dad-neighbor-solicitations** *boolean*

<b>Description</b>	Determines whether the router processes Neighbor Solicitation DAD messages  When set to true, Neighbor Solicitation DAD messages used by the hosts for Duplicate Address Detection are processed, replied if a proxy ND entry is hit, or reinjected into the data path. When set to false, Neighbor Solicitation DAD messages are flooded to the remote nodes if unknown-neighbor-solicitation is configured so that unknown Neighbor Solicitation messages are flooded.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd process-dad-neighbor-solicitations</a> <i>boolean</i>
<b>Tree</b>	<a href="#">process-dad-neighbor-solicitations</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**static-entries**

<b>Description</b>	Enter the static-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd static-entries</a>
<b>Tree</b>	<a href="#">static-entries</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**neighbor** [ipv6-address](#) *string*

<b>Description</b>	List of static proxy ND entries that map an IPv6 address to a MAC address  To configure a static proxy ND entry a value must be written into this leaf, as well as the link-layer-address leaf.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd static-entries neighbor ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ipv6-address** *string*

<b>Description</b>	IPv6 address resolved by the proxy ND entry To configure a static neighbor entry a value must be written into this leaf, as well as the link-layer-address leaf.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**evpn-override** *boolean*

<b>Description</b>	The evpn-override property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">evpn-override</a> <i>boolean</i>
<b>Tree</b>	<a href="#">evpn-override</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**is-immutable** *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">is-immutable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>

<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### link-layer-address *string*

<b>Description</b>	The resolving MAC address of the proxy entry To configure a static proxy entry a value must be written into this leaf and the ip-address leaf.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### state *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### type *keyword*

<b>Description</b>	The type of the neighbor entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">static-entries</a> <a href="#">neighbor ipv6-address</a> <i>string</i> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Default</b>	router

<b>Options</b>	<ul style="list-style-type: none"> <li>• router</li> <li>• host</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## active-entries *number*

<b>Description</b>	The total number of active proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## in-active-entries *number*

<b>Description</b>	The total number of inactive proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table proxy-nd statistics in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**neighbor-origin** *origin keyword*

<b>Description</b>	The origin of the proxy entry installed in the table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">neighbor-origin</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**origin** *keyword*

<b>Description</b>	Enter the origin context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> <li>• duplicate</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**active-entries** *number*

<b>Description</b>	The total number of active proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**in-active-entries** *number*

<b>Description</b>	The total number of inactive proxy ARP entries.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **pending-entries** *number*

<b>Description</b>	The total number of pending proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">pending-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

<b>Description</b>	The total number of proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **pending-entries** *number*

<b>Description</b>	The total number of pending proxy ARP entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">pending-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of proxy ARP entries.

**Context** [network-instance name](#) *string* [bridge-table proxy-nd statistics total-entries](#) *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **table-entries**

**Description** Enter the table-entries context

**Context** [network-instance name](#) *string* [bridge-table proxy-nd table-entries](#)

**Tree** [table-entries](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **neighbor** [ipv6-address](#) *string*

**Description** List of proxy ND entries that map an IPv6 address to a MAC address

**Context** [network-instance name](#) *string* [bridge-table proxy-nd table-entries neighbor](#) [ipv6-address](#) *string*

**Tree** [neighbor](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv6-address** *string*

**Description** IPv6 address resolved by the proxy ND entry

**Context** [network-instance name](#) *string* [bridge-table proxy-nd table-entries neighbor](#) [ipv6-address](#) *string*



<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### evpn-override *boolean*

<b>Description</b>	The evpn-override property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <b>evpn-override</b> <i>boolean</i>
<b>Tree</b>	<a href="#">evpn-override</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### is-immutable *boolean*

<b>Description</b>	The immutable property of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <b>is-immutable</b> <i>boolean</i>
<b>Tree</b>	<a href="#">is-immutable</a>
<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### last-update *string*

<b>Description</b>	The date and time of the last update of this proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <b>last-update</b> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**link-layer-address** *string*

<b>Description</b>	The resolving MAC address of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">link-layer-address</a> <i>string</i>
<b>Tree</b>	<a href="#">link-layer-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**origin** *keyword*

<b>Description</b>	The origin of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> <li>• duplicate</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**state** *keyword*

<b>Description</b>	The state of the proxy entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active</li> <li>• in-active</li> <li>• pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**type** *keyword*

<b>Description</b>	The type of the neighbor entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-entries</a> <a href="#">neighbor</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• router</li> <li>• host</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**table-size** *number*

<b>Description</b>	Maximum number of entries allowed in the proxy table of the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">table-size</a> <i>number</i>
<b>Tree</b>	<a href="#">table-size</a>
<b>Range</b>	1 to 8192
<b>Default</b>	250
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**trace-options**

<b>Description</b>	Debug traceoptions for Proxy-ARP
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**flag** *name* *keyword*

<b>Description</b>	Tracing parameters
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">trace-options</a> <a href="#">flag name</a> <i>keyword</i>

<b>Tree</b>	<a href="#">flag</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**name** *keyword*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">trace-options</a> <a href="#">flag name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• solicitation Trace all Neighbor Solicitation packets snooped or generated for proxy ND</li> <li>• advertisement Trace all Neighbor Advertisement packets snooped or generated for proxy ND</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**modifier** *keyword*

<b>Description</b>	Enter the modifier context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">trace-options</a> <a href="#">flag name</a> <i>keyword</i> <a href="#">modifier</a> <i>keyword</i>
<b>Tree</b>	<a href="#">modifier</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• detail To enable detailed tracing, including both received and sent packets</li> <li>• receive To enable tracing for the received packets</li> <li>• send To enable tracing for the sent packets</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**reserved-macs**

<b>Description</b>	Enter the reserved-macs context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">reserved-macs</a>
<b>Tree</b>	<a href="#">reserved-macs</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac** [address](#) *string*

<b>Description</b>	reserved macs on the bridging instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">reserved-macs</a> <a href="#">mac</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**address** *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">reserved-macs</a> <a href="#">mac</a> <a href="#">address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**users** [application](#) *string*

<b>Description</b>	applications reserving this mac
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">reserved-macs</a> <a href="#">mac</a> <a href="#">address</a> <i>string</i> <a href="#">users</a> <a href="#">application</a> <i>string</i>
<b>Tree</b>	<a href="#">users</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**application *string***

<b>Description</b>	Enter the application context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">reserved-macs</a> <a href="#">mac address</a> <i>string</i> <a href="#">users</a> <a href="#">application</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**static-mac**

<b>Description</b>	Enter the static-mac context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">static-mac</a>
<b>Tree</b>	<a href="#">static-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac [address](#) *string***

<b>Description</b>	static macs configured on the bridging instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">static-mac</a> <a href="#">mac address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**address *string***

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">static-mac</a> <a href="#">mac address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**destination (*keyword* | *subinterface-all*)**

<b>Description</b>	the destination where the mac is programmed against.
--------------------	--

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table static-mac mac address</a> <i>string</i> <a href="#">destination</a> ( <i>keyword   subinterface-all</i> )
<b>Tree</b>	<a href="#">destination</a>
<b>String Length</b>	5 to 25
<b>Options</b>	<ul style="list-style-type: none"> <li>• blackhole</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## active-entries *number*

<b>Description</b>	The total number of entries that are active in the mac-table.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## failed-entries *number*

<b>Description</b>	The total number of macs, which have not been programmed on atleast one slot
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table statistics failed-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### mac-type *type keyword*

**Description** the type of the mac installed in the fib.  
**Context** [network-instance name](#) *string* [bridge-table](#) [statistics](#) [mac-type type keyword](#)  
**Tree** [mac-type](#)  
**Configurable** False  
**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### type *keyword*

**Description** Enter the type context  
**Context** [network-instance name](#) *string* [bridge-table](#) [statistics](#) [mac-type type keyword](#)  
**Options**

- static
- duplicate
- learnt
- irb-interface
- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

**Configurable** False  
**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### active-entries *number*

**Description** The total number of entries of this type that are active in the mac-table.  
**Context** [network-instance name](#) *string* [bridge-table](#) [statistics](#) [mac-type type keyword](#) [active-entries number](#)  
**Tree** [active-entries](#)  
**Default** 0



<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**failed-entries** *number*

<b>Description</b>	The total number of macs of this type, which have not been programmed on atleast one slot
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table statistics mac-type type</a> <i>keyword</i> <a href="#">failed-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**total-entries** *number*

<b>Description</b>	The total number of macs of this type , active and inactive, that are present in the mac-table.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table statistics mac-type type</a> <i>keyword</i> <a href="#">total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**total-entries** *number*

<b>Description</b>	The total number of macs, active and inactive, that are present in the mac-table.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table statistics total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**description** *string*

<b>Description</b>	A user-entered description of this network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**icmp**

<b>Description</b>	Enter the icmp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp</a>
<b>Tree</b>	<a href="#">icmp</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	ICMP version 4 statistics
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the interface counters were cleared.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp</a> <a href="#">statistics</a> <a href="#">last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total**

<b>Description</b>	Aggregate statistics, counting all ICMP message types
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">icmp statistics total</a>
<b>Tree</b>	<a href="#">total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-error-packets** *number*

<b>Description</b>	The number of ICMPv4 messages that the network instance received and extracted successfully to the CPM but when they arrived they were determined to have ICMP-specific errors (bad ICMP checksums, bad length, etc.)
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">icmp statistics total in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-packets** *number*

<b>Description</b>	The total number of ICMPv4 messages that the network instance received and extracted successfully to the CPM. Note that this counter includes all those counted by in-error-packets.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">icmp statistics total in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-error-packets** *number*

<b>Description</b>	The number of ICMPv4 messages that could not be sent from this network instance due to issues such as 'no route to the source' or 'fragmentation required but not supported'
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">icmp statistics total out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-packets** *number*

<b>Description</b>	The total number of ICMPv4 messages that the network instance attempted to send. Note that this counter includes all those counted by out-error-packets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp statistics total out-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **type name** *keyword*

<b>Description</b>	Enter the type list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp statistics type name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **name** *keyword*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp statistics type name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• echo-reply</li> <li>• dest-unreachable</li> <li>• redirect</li> <li>• echo</li> <li>• rtr-advertisement</li> <li>• rtr-selection</li> <li>• time-exceeded</li> <li>• param-problem</li> <li>• timestamp</li> </ul>

- timestamp-reply

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-packets** *number*

<b>Description</b>	The total number of ICMPv4 messages of this type that the network instance received and extracted successfully to the CPM.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp statistics type name</a> <i>keyword</i> <a href="#">in-packets number</a>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-error-packets** *number*

<b>Description</b>	The number of ICMPv4 messages of this type that could not be sent from this network instance due to issues such as 'no route to the source' or 'fragmentation required but not supported'
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp statistics type name</a> <i>keyword</i> <a href="#">out-error-packets number</a>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-packets** *number*

<b>Description</b>	The total number of ICMPv4 messages of this type that the network instance attempted to send.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp statistics type name</a> <i>keyword</i> <a href="#">out-packets number</a>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**icmp6**

<b>Description</b>	Enter the icmp6 context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6</a>
<b>Tree</b>	<a href="#">icmp6</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	ICMP version 6 statistics
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the interface counters were cleared.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6</a> <a href="#">statistics</a> <a href="#">last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total**

<b>Description</b>	Aggregate statistics, counting all ICMP message types
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6</a> <a href="#">statistics</a> <a href="#">total</a>
<b>Tree</b>	<a href="#">total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-error-packets** *number*

<b>Description</b>	The number of ICMPv6 messages that the network instance received and extracted successfully to the CPM but when they arrived they were determined to have ICMP-specific errors (bad ICMP checksums, bad length, etc.)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics total in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-packets** *number*

<b>Description</b>	The total number of ICMPv6 messages that the network instance received and extracted successfully to the CPM. Note that this counter includes all those counted by in-error-packets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics total in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-error-packets** *number*

<b>Description</b>	The number of ICMPv6 messages that could not be sent from this network instance due to issues such as 'no route to the source'
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics total out-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-packets** *number*

<b>Description</b>	The total number of ICMPv6 messages that the network instance attempted to send. Note that this counter includes all those counted by out-error-packets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics total out-packets</a> <i>number</i>

<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** [name](#) *keyword*

<b>Description</b>	Enter the type list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics type name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *keyword*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics type name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">dest-unreachable</a></li> <li>• <a href="#">packet-too-big</a></li> <li>• <a href="#">time-exceeded</a></li> <li>• <a href="#">param-problem</a></li> <li>• <a href="#">echo-request</a></li> <li>• <a href="#">echo-reply</a></li> <li>• <a href="#">rtr-solicitation</a></li> <li>• <a href="#">rtr-advertisement</a></li> <li>• <a href="#">nbr-solicitation</a></li> <li>• <a href="#">nbr-advertisement</a></li> <li>• <a href="#">redirect</a></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-packets** *number*

<b>Description</b>	The total number of ICMPv6 messages of this type that the network instance received and extracted successfully to the CPM.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics type name</a> <i>keyword</i> <a href="#">in-packets number</a>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-error-packets** *number*

<b>Description</b>	The number of ICMPv6 messages of this type that could not be sent from this network instance due to issues such as 'no route to the source'
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics type name</a> <i>keyword</i> <a href="#">out-error-packets number</a>
<b>Tree</b>	<a href="#">out-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-packets** *number*

<b>Description</b>	The total number of ICMPv6 messages of this type that the network instance attempted to send.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics type name</a> <i>keyword</i> <a href="#">out-packets number</a>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **inter-instance-policies**

<b>Description</b>	Policies for leaking routes between this network instance and other network instances
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">inter-instance-policies</a>
<b>Tree</b>	<a href="#">inter-instance-policies</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## apply-policy

**Description** Container for specifying route leaking import and export policies

**Context** [network-instance name](#) *string* [inter-instance-policies](#) [apply-policy](#)

**Tree** [apply-policy](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## export-policy *reference*

**Description** Policy used to specify the routes of this NI that should be made available for leaking to other NIs

**Context** [network-instance name](#) *string* [inter-instance-policies](#) [apply-policy](#) [export-policy reference](#)

**Tree** [export-policy](#)

**Reference** [routing-policy policy name](#) *string*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## import-policy *reference*

**Description** Policy used to specify the routes leaked by other NIs that should be imported into this NI

**Context** [network-instance name](#) *string* [inter-instance-policies](#) [apply-policy](#) [import-policy reference](#)

**Tree** [import-policy](#)

**Reference** [routing-policy policy name](#) *string*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**interface** *name string*

<b>Description</b>	List of subinterfaces used by this network-instance
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">interface name string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the subinterface bound to this network-instance
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">interface name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**bridge-table**

<b>Description</b>	Enable the bridge-table context
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">interface name string</a> <a href="#">bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**mac-relearn-only** *boolean*

<b>Description</b>	The value of this leaf indicates that the interface will not learn any new mac addresses, but will relearn any that are already programmed
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">interface name string</a> <a href="#">bridge-table</a> <a href="#">mac-relearn-only boolean</a>
<b>Tree</b>	<a href="#">mac-relearn-only</a>
<b>Default</b>	true
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**multicast-forwarding** *keyword*

<b>Description</b>	The type of multicast data forwarded by this subinterface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">interface name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">multicast-forwarding</a> <i>keyword</i>
<b>Tree</b>	<a href="#">multicast-forwarding</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• BUM</li> <li>• unknown-unicast</li> <li>• broadcast-mcast</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**oper-mac-learning** *keyword*

<b>Description</b>	The operational state of mac-learning on this subinterface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">interface name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">oper-mac-learning</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-mac-learning</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading</li> </ul>

- Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **oper-mac-learning-disabled-reason** *keyword*

<b>Description</b>	The reason for the mac-learning being disabled on this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">interface name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">oper-mac-learning-disabled-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-mac-learning-disabled-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• admin-disabled</li> <li>• mac-dup-detected</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **index** *number*

<b>Description</b>	network instance allocated sub interface index
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">interface name</a> <i>string</i> <a href="#">index</a> <i>number</i>
<b>Tree</b>	<a href="#">index</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-down-reason** *keyword*

<b>Description</b>	The reason for the interface being down in the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">interface name</a> <i>string</i> <b>oper-down-reason</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-addr-missing</li> <li>• ip-addr-overlap</li> <li>• subif-down</li> <li>• net-inst-down</li> <li>• vrf-type-mismatch</li> <li>• mac-dup-detected</li> <li>• associated-mac-vrf-down</li> <li>• mac-vrf-association-missing</li> <li>• ip-vrf-association-missing</li> <li>• associated-ip-vrf-down</li> <li>• evpn-mh-standby</li> <li>• interface-ref-missing</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of this subinterface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">interface name</a> <i>string</i> <b>oper-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading</li> </ul>

- Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## ip-forwarding

<b>Description</b>	Forwarding options that apply to the entire network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-forwarding</a>
<b>Tree</b>	<a href="#">ip-forwarding</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## last-resort-lookup

<b>Description</b>	Enter the last-resort-lookup context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-forwarding last-resort-lookup</a>
<b>Tree</b>	<a href="#">last-resort-lookup</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## network-instance *reference*

<b>Description</b>	A reference to another network-instance in which the system will try to find a matching IP route if this network instance does not have any route to the destination IP
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-forwarding last-resort-lookup network-instance reference</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## receive-ipv4-check *boolean*

<b>Description</b>	If set to true then the following check is done on every subinterface of the network-instance: if an IPv4 packet is received on a subinterface and the IPv4 oper-status of this subinterface is down the packet is discarded. If this leaf is set to false then received IPv4 packets are accepted on all subinterfaces of the network-instance that are up, even if they do not have any IPv4 addresses.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-forwarding receive-ipv4-check boolean</a>
<b>Tree</b>	<a href="#">receive-ipv4-check</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## receive-ipv6-check *boolean*

<b>Description</b>	If set to true then the following check is done on every subinterface of the network-instance: if an IPv6 packet is received on a subinterface and the IPv6 oper-status of this subinterface is down the packet is discarded. If this leaf is set to false then received IPv6 packets are accepted on all
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	subinterfaces of the network-instance that are up, even if they do not have any IPv6 addresses.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-forwarding</a> <a href="#">receive-ipv6-check</a> <i>boolean</i>
<b>Tree</b>	<a href="#">receive-ipv6-check</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ip-load-balancing

<b>Description</b>	Container for IP load-balancing options that are specific to the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-load-balancing</a>
<b>Tree</b>	<a href="#">ip-load-balancing</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

## resilient-hash-prefix [ip-prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	List of IPv4 and IPv6 prefixes which should be programmed for resilient ECMP hashing.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-load-balancing</a> <a href="#">resilient-hash-prefix</a> <a href="#">ip-prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> )
<b>Tree</b>	<a href="#">resilient-hash-prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

## [ip-prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	IPv4 or IPv6 prefix. Active routes in the FIB that exactly match this prefix or that are longer matches of this prefix are provided with resilient-hash programming.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">ip-load-balancing</a> <a href="#">resilient-hash-prefix</a> <a href="#">ip-prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> )
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

### hash-buckets-per-path *number*

**Description** The number of times each next-hop is repeated in the fill pattern if there are max-paths ECMP next-hops  
A larger number consumes more resources but provides more granularity when flows need to be moved. Note that hash-buckets-per-path \* max-paths must be less than or equal to 128.

**Context** [network-instance name](#) *string* [ip-load-balancing resilient-hash-prefix ip-prefix \(ipv4-prefix | ipv6-prefix\)](#) [hash-buckets-per-path](#) *number*

**Tree** [hash-buckets-per-path](#)

**Range** 1 to 32

**Default** 1

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

### max-paths *number*

**Description** The maximum number of ECMP next-hops per route associated with the resilient-hash prefix  
If a matching route has more than this number of ECMP next-hops only the first N are used, where N is the value of this parameter. Note that hash-buckets-per-path \* max-paths must be less than or equal to 128.

**Context** [network-instance name](#) *string* [ip-load-balancing resilient-hash-prefix ip-prefix \(ipv4-prefix | ipv6-prefix\)](#) [max-paths](#) *number*

**Tree** [max-paths](#)

**Range** 1 to 64

**Default** 1

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

## mpls

<b>Description</b>	Enable the mpls context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls</a>
<b>Tree</b>	<a href="#">mpls</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## icmp-tunneling *boolean*

<b>Description</b>	<p>When enabled, ICMP messages generated by the router acting in the role of a transit LSR are injected in the forward direction of the LSP, to be turned around and sent back to the sender of the IP payload by the egress LER.</p> <p>If a transit LSR receives an MPLS packet that cannot be forwarded (e.g. label TTL has expired, or the egress subinterface MPLS MTU was exceeded) and the MPLS packet has an IP payload, the router will generate an appropriate ICMP error message. When icmp-tunneling is 'false' the ICMP error message is dropped if there is no IP route back to the source in the network-instance that received the MPLS packet.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls</a> <a href="#">icmp-tunneling</a> <i>boolean</i>
<b>Tree</b>	<a href="#">icmp-tunneling</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## static-entry [top-label](#) *number* [preference](#) *number*

<b>Description</b>	Enter the static-entry list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls</a> <a href="#">static-entry</a> <a href="#">top-label</a> <i>number</i> <a href="#">preference</a> <i>number</i>
<b>Tree</b>	<a href="#">static-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## top-label *number*

<b>Description</b>	A received MPLS packet, received on any subinterface, matches this static entry if its top label stack entry contains the label value specified by this leaf.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls</a> <a href="#">static-entry</a> <a href="#">top-label</a> <i>number</i> <a href="#">preference</a> <i>number</i>

<b>Range</b>	16 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **preference** *number*

<b>Description</b>	For a given top label value the entry with the lowest preference is selected as the active entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a>
<b>Range</b>	0 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **admin-state** *keyword*

<b>Description</b>	Used to disable the entire static route and all its next-hops.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **collect-stats** *boolean*

<b>Description</b>	When set to true, stats resources are used to count the number of incoming packets matching the top label value of this static MPLS route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a> <a href="#">collect-stats</a> <i>boolean</i>
<b>Tree</b>	<a href="#">collect-stats</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**installed** *boolean*

<b>Description</b>	Indicates whether the MPLS route entry was programmed in the data path.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a> <a href="#">installed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">installed</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**next-hop-group** *reference*

<b>Description</b>	Enter the next-hop-group context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a> <a href="#">next-hop-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">next-hop-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups</a> <a href="#">group name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**operation** *keyword*

<b>Description</b>	The operation to be performed with the top label.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a> <a href="#">operation</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operation</a>
<b>Default</b>	swap
<b>Options</b>	<ul style="list-style-type: none"> <li>• pop</li> <li>• swap</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**resolved-next-hop-group-id** *reference*

<b>Description</b>	Enter the resolved-next-hop-group-id context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls static-entry top-label</a> <i>number</i> <a href="#">preference number</a> <a href="#">resolved-next-hop-group-id</a> <i>reference</i>

<b>Tree</b>	<a href="#">resolved-next-hop-group-id</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **static-label-block** *reference*

<b>Description</b>	Enter the static-label-block context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls</a> <a href="#">static-label-block</a> <i>reference</i>
<b>Tree</b>	<a href="#">static-label-block</a>
<b>Reference</b>	<a href="#">system</a> <a href="#">mpls</a> <a href="#">label-ranges</a> <a href="#">static</a> <a href="#">name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **static-label-block-status** *keyword*

<b>Description</b>	Status of the label block. The label block may show as unavailable if there is pending cleanup.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls</a> <a href="#">static-label-block-status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">static-label-block-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• available</li> <li>• unavailable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **mpls-forwarding**

<b>Description</b>	Enter the mpls-forwarding context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls-forwarding</a>
<b>Tree</b>	<a href="#">mpls-forwarding</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**forward-received-packets** *boolean*

<b>Description</b>	When set to true, MPLS packets received on any subinterface of the network-instance will be forwarded according to the matching ILM entries. When set to false, MPLS packets are discarded if received on any subinterface of the network-instance. In the default network-instance the default is 'true'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mpls-forwarding forward-received-packets</a> <i>boolean</i>
<b>Tree</b>	<a href="#">forward-received-packets</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mtu**

<b>Description</b>	Top-level container for configuration and state data related to network-instance MTU
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mtu</a>
<b>Tree</b>	<a href="#">mtu</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**path-mtu-discovery** *boolean*

<b>Description</b>	Enables or disables path MTU discovery in this network-instance This is controlled via the kernel <code>ip_no_pmtu_disc</code> option. Path MTU discovery (PMTUD) is a standardized technique in networking for determining the MTU size on the network path between two hosts, usually with the goal of avoiding IP fragmentation. For IPv4 packets, Path MTU discovery works by setting the Don't Fragment (DF) flag bit in the IP headers of outgoing packets. Then, any device along the path whose MTU is smaller than the packet will drop it, and send back an Internet Control Message Protocol (ICMP) Fragmentation Needed (Type 3, Code 4) message containing its MTU, allowing the source host to reduce its Path MTU appropriately. The process is repeated until the MTU is small enough to traverse the entire path without fragmentation.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">mtu path-mtu-discovery</a> <i>boolean</i>
<b>Tree</b>	<a href="#">path-mtu-discovery</a>
<b>Default</b>	true
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## next-hop-groups

**Description** Enable the next-hop-groups context  
**Context** [network-instance name](#) *string* [next-hop-groups](#)  
**Tree** [next-hop-groups](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### group [name](#) *string*

**Description** Specifies the next hop group.  
**Context** [network-instance name](#) *string* [next-hop-groups](#) [group name](#) *string*  
**Tree** [group](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### name *string*

**Description** Specifies the next hop group name  
**Context** [network-instance name](#) *string* [next-hop-groups](#) [group name](#) *string*  
**String Length** 1 to 255  
**Configurable** True  
**Platforms** Supported on all platforms

### admin-state *keyword*

**Description** Used to enable or disable a next-hop group  
**Context** [network-instance name](#) *string* [next-hop-groups](#) [group name](#) *string* [admin-state](#) *keyword*  
**Tree** [admin-state](#)  
**Default** enable  
**Options**

- enable
- disable

**Configurable** True



**Platforms** Supported on all platforms

## blackhole

**Description** Enable the blackhole context

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [blackhole](#)

**Tree** [blackhole](#)

**Configurable** True

**Platforms** Supported on all platforms

## generate-icmp *boolean*

**Description** When set to true the router generates ICMP unreachable messages for the dropped packets

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [blackhole generate-icmp](#) *boolean*

**Tree** [generate-icmp](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

## nexthop [index](#) *number*

**Description** Enter the nexthop list instance

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [nexthop index](#) *number*

**Tree** [nexthop](#)

**Configurable** True

**Platforms** Supported on all platforms

**Max. Elements** 128

## [index](#) *number*

**Description** Numerical index of the next-hop member

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [nexthop index](#) *number*

**Configurable** True

**Platforms** Supported on all platforms

### **admin-state** *keyword*

**Description** Used to enable or disable a particular next-hop

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [nexthop index](#) *number* **admin-state** *keyword*

**Tree** [admin-state](#)

**Default** enable

**Options**

- enable
- disable

**Configurable** True

**Platforms** Supported on all platforms

### **failure-detection**

**Description** Enter the failure-detection context

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [nexthop index](#) *number* **failure-detection**

**Tree** [failure-detection](#)

**Configurable** True

**Platforms** Supported on all platforms

### **enable-bfd**

**Description** Enable the enable-bfd context

**Context** [network-instance name](#) *string* [next-hop-groups group name](#) *string* [nexthop index](#) *number* [failure-detection](#) **enable-bfd**

**Tree** [enable-bfd](#)

**Configurable** True

**Platforms** Supported on all platforms

### **local-address** (*ipv4-address* | *ipv6-address*)

**Description** The local address to be used for the associated BFD session

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i> <a href="#">nexthop index number</a> <a href="#">failure-detection enable-bfd local-address</a> ( <i>ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **local-discriminator** *number*

<b>Description</b>	The local discriminator to be used for the associated BFD session
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i> <a href="#">nexthop index number</a> <a href="#">failure-detection enable-bfd local-discriminator</a> <i>number</i>
<b>Tree</b>	<a href="#">local-discriminator</a>
<b>Range</b>	1 to 16384
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **remote-discriminator** *number*

<b>Description</b>	The remote discriminator to be used for the associated BFD session
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i> <a href="#">nexthop index number</a> <a href="#">failure-detection enable-bfd remote-discriminator</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-discriminator</a>
<b>Range</b>	1 to 16384
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ip-address** (*ipv4-address | ipv6-address*)

<b>Description</b>	The next-hop IPv4 or IPv6 address
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i> <a href="#">nexthop index number</a> <a href="#">ip-address</a> ( <i>ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">ip-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**pushed-mpls-label-stack** (*number* | *keyword*)

<b>Description</b>	A list of MPLS labels to push onto the packet when forwarding to this particular next-hop  Default is none/empty. Pushing an MPLS label stack is not supported unless the resolve flag is set to false.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i> <a href="#">nexthop index number</a> <a href="#">pushed-mpls-label-stack</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">pushed-mpls-label-stack</a>
<b>Range</b>	16 to 1048575
<b>Options</b>	<ul style="list-style-type: none"> <li>• IPV4_EXPLICIT_NULL</li> <li>• IPV6_EXPLICIT_NULL</li> <li>• IMPLICIT_NULL</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6
<b>Max. Elements</b>	1

**resolve** *boolean*

<b>Description</b>	When set to true, the router is allowed to use any route to resolve the nexthop address to an outgoing interface  When set to false the router is only allowed to use a local route to resolve the next-hop address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i> <a href="#">nexthop index number</a> <a href="#">resolve</a> <i>boolean</i>
<b>Tree</b>	<a href="#">resolve</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-down-reason** *keyword*

<b>Description</b>	The reason the network-instance is down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• admin-down</li> <li>• no-mcid</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-mac-vrf-mtu** *number*

<b>Description</b>	Operational I2-mtu of the mac-vrf network-instance. Calculated as the lowest I2-mtu of the bridged subinterfaces associated to the mac-vrf, minus the vlan tags associated to that subinterface (lowest mtu subinterface).  When the mac-vrf has an associated irb subinterface, if the configured irb ip-mtu exceeds the oper-mac-vrf-mtu minus 14 bytes (Ethernet header), then the irb subinterface will remain operationally down.  The oper-mac-vrf-mtu is only available in mac-vrf network-instances.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">oper-mac-vrf-mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">oper-mac-vrf-mtu</a>
<b>Range</b>	1492 to 9500
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	This leaf contains the operational state of the network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed</li> </ul>

- Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## policy-forwarding

<b>Description</b>	Configuration and operational state relating to policy-forwarding within a network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding</a>
<b>Tree</b>	<a href="#">policy-forwarding</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## interface [subinterface](#) *string*

<b>Description</b>	List of subinterfaces that use the policy forwarding policy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding</a> <a href="#">interface</a> <a href="#">subinterface</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### subinterface *string*

**Description** Name of the subinterface.  
**Context** [network-instance name](#) *string* [policy-forwarding interface subinterface](#) *string*  
**Configurable** True  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### apply-forwarding-policy *reference*

**Description** The policy to be applied on the interface. Packets ingress on the referenced interface should be compared to the match criteria within the specified policy, and in the case that these criteria are met, the forwarding actions specified applied.  
**Context** [network-instance name](#) *string* [policy-forwarding interface subinterface](#) *string* [apply-forwarding-policy](#) *reference*  
**Tree** [apply-forwarding-policy](#)  
**Reference** [network-instance name](#) *string* [policy-forwarding policy](#) *policy-id* *string*  
**Configurable** True  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### policy [policy-id](#) *string*

**Description** A forwarding policy is defined to have a set of match criteria, allowing particular fields of a packet's header to be matched, and a set of forwarding actions which determines how the local system should forward the packet.  
**Context** [network-instance name](#) *string* [policy-forwarding policy](#) *policy-id* *string*  
**Tree** [policy](#)  
**Configurable** True  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6  
**Max. Elements** 4

### policy-id *string*

**Description** A unique name identifying the forwarding policy. This name is used when applying the policy to a particular interface.  
**Context** [network-instance name](#) *string* [policy-forwarding policy](#) *policy-id* *string*

<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **description** *string*

<b>Description</b>	Description string for the policy
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **rule** [sequence-id](#) *number*

<b>Description</b>	List of policy forwarding rules.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule</a> <a href="#">sequence-id</a> <i>number</i>
<b>Tree</b>	<a href="#">rule</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule</a> <a href="#">sequence-id</a> <i>number</i>
<b>Range</b>	1 to 128
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **action**

<b>Description</b>	Container for the actions to be applied to packets matching the policy forwarding rule.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### network-instance *reference*

<b>Description</b>	When this leaf is set, packets matching the match criteria for the forwarding rule should be looked up in the network-instance that is referenced rather than the network-instance with which the interface is associated.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">action</a> <a href="#">network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### description *string*

<b>Description</b>	Description string for the rule
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### match

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## ipv4

<b>Description</b>	Container for match conditions associated with IPv4 header fields If no match conditions are provided then no IPv4 packets are matched.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">match ipv4</a>
<b>Tree</b>	<a href="#">ipv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## dscp-set (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">match ipv4 dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>• CS0</li> <li>• LE</li> <li>• CS1</li> <li>• AF11</li> <li>• AF12</li> <li>• AF13</li> <li>• CS2</li> <li>• AF21</li> <li>• AF22</li> <li>• AF23</li> <li>• CS3</li> <li>• AF31</li> <li>• AF32</li> <li>• AF33</li> <li>• CS4</li> <li>• AF41</li> <li>• AF42</li> <li>• AF43</li> </ul>

	<ul style="list-style-type: none"> <li>• CS5</li> <li>• EF</li> <li>• CS6</li> <li>• CS7</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **protocol** (*number* | *keyword*)

<b>Description</b>	An IPv4 packet matches this condition if its IP protocol type field matches the specified value
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <a href="#">string</a> <a href="#">rule sequence-id</a> <a href="#">number</a> <a href="#">match ipv4 protocol</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">protocol</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv6-hop</a> IPv6 hop-by-hop option</li> <li>• <a href="#">icmp</a> Internet Control Message Protocol</li> <li>• <a href="#">igmp</a> Internet Group Management Protocol</li> <li>• <a href="#">gpp</a> Gateway-to-Gateway Protocol</li> <li>• <a href="#">ipv4</a> IPv4 encapsulation</li> <li>• <a href="#">st</a> Stream Protocol</li> <li>• <a href="#">tcp</a> Transmission Control Protocol</li> <li>• <a href="#">egp</a> Exterior Gateway Protocol</li> <li>• <a href="#">igp</a> Interior Gateway Protocol</li> <li>• <a href="#">udp</a> User Datagram Protocol</li> <li>• <a href="#">ipv6</a> IPv6 encapsulation</li> </ul>

- idrp  
Inter-Domain Routing Protocol
- rsvp  
Resource Reservation Protocol
- gre  
Generic Routing Encapsulation
- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol
- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**source-ip**

<b>Description</b>	Packet matching criteria based on source IPv4 address
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">match ipv4 source-ip</a>
<b>Tree</b>	<a href="#">source-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**prefix** *string*

<b>Description</b>	Match a packet if its source IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">match ipv4 source-ip prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**tcam-entries** *number*

<b>Description</b>	The number of TCAM entries required to implement this rule.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">rule sequence-id</a> <i>number</i> <a href="#">tcam-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**tcam-entries** *number*

<b>Description</b>	The number of TCAM entries required to implement this entire policy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">policy-forwarding policy</a> <a href="#">policy-id</a> <i>string</i> <a href="#">tcam-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## protocols

<b>Description</b>	The routing protocols that are enabled for this network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a>
<b>Tree</b>	<a href="#">protocols</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bgp

<b>Description</b>	Enable the bgp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## admin-state *keyword*

<b>Description</b>	Administratively enable or disable the entire BGP instance Disable causes all BGP sessions to be taken down immediately, even if admin-state at the group or neighbor level of some of these sessions is still set as enable.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## afi-safi [afi-safi-name](#) *identityref*

<b>Description</b>	List of address families supported by the BGP instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">afi-safi</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **afi-safi-name** *identityref*

**Description** The name of a BGP address family, which translates to a specific AFI value and a specific SAFI value

**Context** [network-instance name](#) *string* [protocols bgp afi-safi afi-safi-name](#) *identityref*

**Options**

- **ipv4-unicast**  
Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)
- **ipv6-unicast**  
Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)
- **evpn**  
EVPN routes (AFI = 25, SAFI = 70)

**Configurable** True

**Platforms** Supported on all platforms

### **active-routes** *number*

**Description** The total number of routes belonging to this AFI/SAFI that are installed for forwarding

**Context** [network-instance name](#) *string* [protocols bgp afi-safi afi-safi-name](#) *identityref* [active-routes](#) *number*

**Tree** [active-routes](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **add-paths**

**Description** Configure support for the advertisement and receipt of multiple paths for the AFI/SAFI

**Context** [network-instance name](#) *string* [protocols bgp afi-safi afi-safi-name](#) *identityref* [add-paths](#)

**Tree** [add-paths](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**receive *boolean***

<b>Description</b>	Enable capability negotiation to receive multiple path advertisements from a single peer for a single NLRI belonging to the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths receive</a> <i>boolean</i>
<b>Tree</b>	<a href="#">receive</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**send *boolean***

<b>Description</b>	Enable capability negotiation to send multiple path advertisements to a single peer for a single NLRI belonging to the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths send</a> <i>boolean</i>
<b>Tree</b>	<a href="#">send</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**send-max *number***

<b>Description</b>	Send the N best paths for a single NLRI, or as many as possible until there are no more valid paths to send.  This ensures the best path is advertised but does not limit the additional paths to being 'used' paths.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths send-max</a> <i>number</i>
<b>Tree</b>	<a href="#">send-max</a>
<b>Range</b>	1 to 16
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6



**send-multipath**

<b>Description</b>	Send the used paths for a single NLRI, including all paths that are multipaths.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths</a> <a href="#">send-multipath</a>
<b>Tree</b>	<a href="#">send-multipath</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**admin-state** *keyword*

<b>Description</b>	This leaf indicates whether the AFI-SAFI is enabled for the instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**evpn**

<b>Description</b>	Options related to the EVPN address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise-ipv6-next-hops** *boolean*

<b>Description</b>	Enables advertisement of EVPN routes with IPv6 next-hops to peers If this is set to true and the local-address used towards the peer is an IPv6 address and BGP is supposed to apply next-hop-self then the route is
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advertised with the IPv6 local-address as the BGP next-hop. If this is set to false, then the EVPN route is advertised with an IPv4 next-hop.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref evpn advertise-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-ipv6-next-hops</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **inter-as-vpn** *boolean*

<b>Description</b>	When set to true, received EVPN routes that are not imported by any network-instance are retained in the BGP RIB and considered 'used' so that they can be propagated to any EBGP or IBGP peer.  This command supersedes the effect of keep-all-routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref evpn inter-as-vpn</a> <i>boolean</i>
<b>Tree</b>	<a href="#">inter-as-vpn</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **keep-all-routes** *boolean*

<b>Description</b>	When this is set to true all received EVPN routes are retained in the RIB-IN, even those not imported by any network-instance; these routes display as 'rejected' and cannot be propagated to other peers.  When this is false, EVPN routes that are not imported by any network-instance are dropped and not retained in the BGP RIB-IN; policy changes affecting received EVPN routes will trigger the sending of ROUTE_REFRESH messages towards all EVPN family peers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref evpn keep-all-routes</a> <i>boolean</i>
<b>Tree</b>	<a href="#">keep-all-routes</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rapid-update** *boolean*

<b>Description</b>	When this is set to true, EVPN UPDATEs advertising reachability and withdrawals are advertised immediately, bypassing the session level min-route-advertisement-interval. When this is false, reachability updates and withdrawals are subject to the MRAI interval.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">evpn rapid-update</a> <i>boolean</i>
<b>Tree</b>	<a href="#">rapid-update</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-unicast**

<b>Description</b>	Options related to the IPv4-unicast address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise-ipv6-next-hops** *boolean*

<b>Description</b>	Enables advertisement of IPv4 routes with IPv6 next-hops to peers When set to true, BGP advertises IPv4-unicast routes to its peers using MP-BGP. If the local-address towards a peer is an IPv6 address and BGP is supposed to apply next-hop-self the MP_REACH_NLRI will encode the IPv6 local-address as the BGP next-hop. When set to false, BGP is required to advertise an IPv4 next-hop with every IPv4 route (and to encode that in the NEXT_HOP attribute).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast advertise-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-ipv6-next-hops</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**convergence**

<b>Description</b>	Options for controlling and monitoring routing convergence of the relevant address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence</a>
<b>Tree</b>	<a href="#">convergence</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**converged-peers** *number*

<b>Description</b>	The number of peers that have sent an EOR marker for the address family since the last BGP restart
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence converged-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">converged-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**convergence-state** *keyword*

<b>Description</b>	Enter the convergence-state context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence convergence-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">convergence-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• waiting BGP has recently restarted and no sessions have re-established yet</li> <li>• started BGP has recently restarted and at least one session has re-established with support of the address family</li> <li>• partial BGP has recently restarted and at least one session has advertised an End-of-RIB marker for the address family.</li> <li>• timeout BGP has recently restarted and not all non-slow peers advertised an End-of-RIB marker for the address family before the max-wait-to-advertise timer expired</li> <li>• converged</li> </ul>

All non-slow peers that support the address family have advertised the End-of-RIB marker for the address family

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **convergence-time** *number*

<b>Description</b>	The elapsed time in seconds, starting from the last BGP restart, to reach the converged state for the address family
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast convergence convergence-time</a> <i>number</i>
<b>Tree</b>	<a href="#">convergence-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **first-up-peer-time** *number*

<b>Description</b>	The time when the first session supporting the address family came up, measured from the time that the BGP instance restarted
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast convergence first-up-peer-time</a> <i>number</i>
<b>Tree</b>	<a href="#">first-up-peer-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-up-peer-time** *number*

<b>Description</b>	The time when the last session supporting the address family came up, measured from the time that the BGP instance restarted
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast convergence last-up-peer-time</a> <i>number</i>
<b>Tree</b>	<a href="#">last-up-peer-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max-wait-to-advertise** *number*

<b>Description</b>	The maximum amount of time, in seconds, measured from the time when the first session (configured or dynamic) that supports the address family comes up after a BGP restart, until BGP is allowed to advertise any routes in that address family to any peer  The value of this leaf must always be greater than or equal to the operational value of min-wait-to-advertise. The default value is 3x the value of min-wait-to-advertise. A value of 0 means the feature is disabled and there is no additional delay before advertising routes of the address family.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence max-wait-to-advertise</a> <i>number</i>
<b>Tree</b>	<a href="#">max-wait-to-advertise</a>
<b>Range</b>	0 to 3600
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-max-wait-to-advertise** *number*

<b>Description</b>	The operational value of the max-wait-to-advertise timer for the address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence oper-max-wait-to-advertise</a> <i>number</i>
<b>Tree</b>	<a href="#">oper-max-wait-to-advertise</a>
<b>Range</b>	0 to 10800
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-peers** *number*

<b>Description</b>	The number of BGP sessions (configured and dynamic) that support the address family and that are currently in the established state
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence up-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">up-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-peers-when-min-expired** *number*

<b>Description</b>	The number of BGP sessions (configured and dynamic) that support the address family and that were in established state when the win-wait-to-advertise timer expired
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast convergence up-peers-when-min-expired</a> <i>number</i>
<b>Tree</b>	<a href="#">up-peers-when-min-expired</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-resolution**

<b>Description</b>	Options for controlling next-hop resolution procedures
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution</a>
<b>Tree</b>	<a href="#">next-hop-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv4-next-hops**

<b>Description</b>	Options related to the resolution of BGP next-hops that are IPv4 addresses
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution ipv4-next-hops</a>
<b>Tree</b>	<a href="#">ipv4-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**tunnel-resolution**

<b>Description</b>	Options related to resolution using tunnels in the tunnel table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution ipv4-next-hops tunnel-resolution</a>
<b>Tree</b>	<a href="#">tunnel-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**allowed-tunnel-types** *identityref*

<b>Description</b>	List of allowed tunnel types
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution ipv4-next-hops tunnel-resolution allowed-tunnel-types</a> <i>identityref</i>
<b>Tree</b>	<a href="#">allowed-tunnel-types</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>ip-in-ip Tunnels with IP-in-IP encapsulation</li> <li>sr-isis Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>sr-policy-mpls-colored Tunnel setup using TE-POLICY.</li> <li>sr-policy-mpls-uncolored Tunnel setup using TE-POLICY.</li> <li>vxlan Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mode** *keyword*

<b>Description</b>	Mode to control the order of tunnel resolution compared to route resolution
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution ipv4-next-hops tunnel-resolution mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>prefer</li> <li>require</li> <li>disabled</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



## ipv6-next-hops

<b>Description</b>	Options related to the resolution of BGP next-hops that are IPv6 addresses
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution</a> <a href="#">ipv6-next-hops</a>
<b>Tree</b>	<a href="#">ipv6-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## tunnel-resolution

<b>Description</b>	Options related to resolution using tunnels in the tunnel table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution</a> <a href="#">ipv6-next-hops</a> <a href="#">tunnel-resolution</a>
<b>Tree</b>	<a href="#">tunnel-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## allowed-tunnel-types *identityref*

<b>Description</b>	List of allowed tunnel types
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast next-hop-resolution</a> <a href="#">ipv6-next-hops</a> <a href="#">tunnel-resolution</a> <a href="#">allowed-tunnel-types</a> <i>identityref</i>
<b>Tree</b>	<a href="#">allowed-tunnel-types</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>ip-in-ip Tunnels with IP-in-IP encapsulation</li> <li>sr-isis Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>sr-policy-mpls-colored</li> </ul>

- Tunnel setup using TE-POLICY.
- sr-policy-mpls-uncolored
  - Tunnel setup using TE-POLICY.
- vxlan
  - Tunnels based on VXLAN encapsulation

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### mode *keyword*

<b>Description</b>	Mode to control the order of tunnel resolution compared to route resolution
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast next-hop-resolution ipv6-next-hops tunnel-resolution mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>• prefer</li> <li>• require</li> <li>• disabled</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### receive-ipv6-next-hops *boolean*

<b>Description</b>	<p>Enables the advertisement of the RFC 5549 capability to receive IPv4 routes with IPv6 next-hops</p> <p>When set to true, BGP advertises an extended NH encoding (RFC 5549) capability to its peers. This capability indicates that local router is prepared to accept BGP routes for IPv4 NLRI with IPv6 next-hops from peers in the scope of the command. When set to false, BGP handles received IPv4 routes with IPv6 next-hops as an error and applies treat-as-withdraw.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv4-unicast receive-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">receive-ipv6-next-hops</a>
<b>Default</b>	false

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv6-unicast

<b>Description</b>	Options related to the IPv6-unicast address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## convergence

<b>Description</b>	Options for controlling and monitoring routing convergence of the relevant address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence</a>
<b>Tree</b>	<a href="#">convergence</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## converged-peers *number*

<b>Description</b>	The number of peers that have sent an EOR marker for the address family since the last BGP restart
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence converged-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">converged-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## convergence-state *keyword*

<b>Description</b>	Enter the convergence-state context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence convergence-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">convergence-state</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• waiting BGP has recently restarted and no sessions have re-established yet</li> <li>• started BGP has recently restarted and at least one session has re-established with support of the address family</li> <li>• partial BGP has recently restarted and at least one session has advertised an End-of-RIB marker for the address family.</li> <li>• timeout BGP has recently restarted and not all non-slow peers advertised an End-of-RIB marker for the address family before the max-wait-to-advertise timer expired</li> <li>• converged All non-slow peers that support the address family have advertised the End-of-RIB marker for the address family</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **convergence-time** *number*

<b>Description</b>	The elapsed time in seconds, starting from the last BGP restart, to reach the converged state for the address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast convergence convergence-time</a> <i>number</i>
<b>Tree</b>	<a href="#">convergence-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **first-up-peer-time** *number*

<b>Description</b>	The time when the first session supporting the address family came up, measured from the time that the BGP instance restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast convergence first-up-peer-time</a> <i>number</i>
<b>Tree</b>	<a href="#">first-up-peer-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-up-peer-time** *number*

<b>Description</b>	The time when the last session supporting the address family came up, measured from the time that the BGP instance restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence last-up-peer-time</a> <i>number</i>
<b>Tree</b>	<a href="#">last-up-peer-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max-wait-to-advertise** *number*

<b>Description</b>	<p>The maximum amount of time, in seconds, measured from the time when the first session (configured or dynamic) that supports the address family comes up after a BGP restart, until BGP is allowed to advertise any routes in that address family to any peer</p> <p>The value of this leaf must always be greater than or equal to the operational value of min-wait-to-advertise. The default value is 3x the value of min-wait-to-advertise. A value of 0 means the feature is disabled and there is no additional delay before advertising routes of the address family.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence max-wait-to-advertise</a> <i>number</i>
<b>Tree</b>	<a href="#">max-wait-to-advertise</a>
<b>Range</b>	0 to 3600
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-max-wait-to-advertise** *number*

<b>Description</b>	The operational value of the max-wait-to-advertise timer for the address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence oper-max-wait-to-advertise</a> <i>number</i>
<b>Tree</b>	<a href="#">oper-max-wait-to-advertise</a>
<b>Range</b>	0 to 10800
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-peers** *number*

<b>Description</b>	The number of BGP sessions (configured and dynamic) that support the address family and that are currently in the established state
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence up-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">up-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-peers-when-min-expired** *number*

<b>Description</b>	The number of BGP sessions (configured and dynamic) that support the address family and that were in established state when the win-wait-to-advertise timer expired
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast convergence up-peers-when-min-expired</a> <i>number</i>
<b>Tree</b>	<a href="#">up-peers-when-min-expired</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-resolution**

<b>Description</b>	Options for controlling next-hop resolution procedures
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast next-hop-resolution</a>
<b>Tree</b>	<a href="#">next-hop-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv4-next-hops**

<b>Description</b>	Options related to the resolution of BGP next-hops that are IPv4 addresses
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast next-hop-resolution ipv4-next-hops</a>
<b>Tree</b>	<a href="#">ipv4-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## tunnel-resolution

<b>Description</b>	Options related to resolution using tunnels in the tunnel table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a> <a href="#">next-hop-resolution</a> <a href="#">ipv4-next-hops</a> <a href="#">tunnel-resolution</a>
<b>Tree</b>	<a href="#">tunnel-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## allowed-tunnel-types *identityref*

<b>Description</b>	List of allowed tunnel types
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp</a> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a> <a href="#">next-hop-resolution</a> <a href="#">ipv4-next-hops</a> <a href="#">tunnel-resolution</a> <a href="#">allowed-tunnel-types</a> <i>identityref</i>
<b>Tree</b>	<a href="#">allowed-tunnel-types</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-in-ip Tunnels with IP-in-IP encapsulation</li> <li>• sr-isis Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• sr-policy-mpls-colored Tunnel setup using TE-POLICY.</li> <li>• sr-policy-mpls-uncolored Tunnel setup using TE-POLICY.</li> <li>• vxlan Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## mode *keyword*

<b>Description</b>	Mode to control the order of tunnel resolution compared to route resolution
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast next-hop-resolution ipv4-next-hops tunnel-resolution mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>• prefer</li> <li>• require</li> <li>• disabled</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## ipv6-next-hops

<b>Description</b>	Options related to the resolution of BGP next-hops that are IPv6 addresses
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast next-hop-resolution ipv6-next-hops</a>
<b>Tree</b>	<a href="#">ipv6-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## tunnel-resolution

<b>Description</b>	Options related to resolution using tunnels in the tunnel table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast next-hop-resolution ipv6-next-hops tunnel-resolution</a>
<b>Tree</b>	<a href="#">tunnel-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## allowed-tunnel-types *identityref*

<b>Description</b>	List of allowed tunnel types
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast next-hop-resolution ipv6-next-hops tunnel-resolution allowed-tunnel-types</a> <i>identityref</i>
<b>Tree</b>	<a href="#">allowed-tunnel-types</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ip-in-ip</a> Tunnels with IP-in-IP encapsulation</li> <li>• <a href="#">sr-isis</a> Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• <a href="#">sr-ospfv2</a> Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• <a href="#">sr-ospfv3</a> Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• <a href="#">sr-policy-mpls-colored</a> Tunnel setup using TE-POLICY.</li> <li>• <a href="#">sr-policy-mpls-uncolored</a> Tunnel setup using TE-POLICY.</li> <li>• <a href="#">vxlan</a> Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>mode</b> <i>keyword</i>	
<b>Description</b>	Mode to control the order of tunnel resolution compared to route resolution
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast next-hop-resolution ipv6-next-hops tunnel-resolution mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">prefer</a></li> <li>• <a href="#">require</a></li> <li>• <a href="#">disabled</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## multipath

<b>Description</b>	Options related to BGP multipath
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">multipath</a>
<b>Tree</b>	<a href="#">multipath</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## allow-multiple-as *boolean*

<b>Description</b>	When set to true, BGP is allowed to build a multipath set using BGP routes with different neighbor AS (most recent AS in the AS_PATH)  When set to false, BGP is only allowed to use non-best paths for ECMP if they meet the multipath criteria and they have the same neighbor AS as the best path
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">multipath allow-multiple-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">allow-multiple-as</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## max-paths-level-1 *number*

<b>Description</b>	The maximum number of BGP ECMP next-hops for BGP routes with an NLRI belonging to the address family of this configuration context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <a href="#">identityref</a> <a href="#">multipath max-paths-level-1</a> <i>number</i>
<b>Tree</b>	<a href="#">max-paths-level-1</a>
<b>Range</b>	1 to 64
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-paths-level-2** *number*

<b>Description</b>	The maximum number of resolving ECMP next-hops per BGP next-hop associated with BGP routes having an NLRI belonging to the address family of this configuration context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">multipath max-paths-level-2</a> <i>number</i>
<b>Tree</b>	<a href="#">max-paths-level-2</a>
<b>Range</b>	1 to 64
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**received-routes** *number*

<b>Description</b>	The total number of routes belonging to this AFI/SAFI received from all peers of the BGP instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">received-routes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**as-path-options**

<b>Description</b>	Options for handling the AS_PATH in received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp as-path-options</a>
<b>Tree</b>	<a href="#">as-path-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**allow-own-as** *number*

<b>Description</b>	The maximum number of times the global AS number or a local AS number of the BGP instance can appear in any received AS_PATH before it is considered a loop and considered invalid
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp as-path-options allow-own-as</a> <i>number</i>

<b>Tree</b>	<a href="#">allow-own-as</a>
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### remove-private-as

<b>Description</b>	Container with options for removing private AS numbers (2-byte and 4-byte) from the advertised AS path towards all peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp as-path-options remove-private-as</a>
<b>Tree</b>	<a href="#">remove-private-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ignore-peer-as *boolean*

<b>Description</b>	If set to true then do not delete or replace a private AS number that is the same as the peer AS number
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp as-path-options remove-private-as ignore-peer-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ignore-peer-as</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### leading-only *boolean*

<b>Description</b>	If set to true then only delete or replace private AS numbers that appear before the first occurrence of a non-private ASN in the sequence of most recent ASNs in the AS path
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp as-path-options remove-private-as leading-only</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leading-only</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mode** *keyword*

<b>Description</b>	The method by which private AS numbers are removed from the advertised AS_PATH attribute
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp as-path-options remove-private-as</a> <i>mode</i> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Default</b>	disabled
<b>Options</b>	<ul style="list-style-type: none"> <li>disabled Do not strip or replace any private AS numbers</li> <li>delete Delete private AS numbers, shortening the AS path</li> <li>replace Replace private AS numbers with the local AS number used towards the peer, maintaining the AS path length</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authentication**

<b>Description</b>	Container with authentication options that apply to all peers of the BGP instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain** *reference*

<b>Description</b>	Reference to a keychain. The keychain type must be tcp-md5.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp authentication keychain</a> <i>reference</i>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**password** *string*

<b>Description</b>	Configures an MD5 authentication password for use with neighboring devices.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp authentication password</a> <i>string</i>
<b>Tree</b>	<a href="#">password</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**autonomous-system** *number*

<b>Description</b>	The global AS number of the BGP instance Values greater than 65535 must be entered in ASPLAIN format.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp autonomous-system</a> <i>number</i>
<b>Tree</b>	<a href="#">autonomous-system</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**best-path-selection**

<b>Description</b>	Container with options that control the BGP decision process (tie break between routes for the same NLRI).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp best-path-selection</a>
<b>Tree</b>	<a href="#">best-path-selection</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**always-compare-med** *boolean*

<b>Description</b>	Compare multi-exit discriminator (MED) value from different ASes when selecting the best route. The default behavior is to only compare MEDs for paths received from the same AS.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp best-path-selection always-compare-med</a> <i>boolean</i>
<b>Tree</b>	<a href="#">always-compare-med</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## convergence

<b>Description</b>	Options for configuring address family independent BGP convergence parameters
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp convergence</a>
<b>Tree</b>	<a href="#">convergence</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## min-wait-to-advertise *number*

<b>Description</b>	<p>The minimum amount of time, in seconds, measured from the moment when the first session (configured or dynamic) comes up after a BGP restart, until BGP is allowed to advertise any routes to any peer</p> <p>The sessions that are established when this timer expires determines the set of peers from which EOR is expected in order to declare convergence for an address family. A value of 0 means the feature is disabled and all routes are advertised immediately.</p> <p>This timer and associated state machine are only restarted by one of the following triggers:</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp convergence min-wait-to-advertise</a> <i>number</i>
<b>Tree</b>	<a href="#">min-wait-to-advertise</a>
<b>Range</b>	0 to 3600
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dynamic-neighbors

<b>Description</b>	Options related to the acceptance and initiation of dynamic BGP sessions
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">dynamic-neighbors</a>
<b>Tree</b>	<a href="#">dynamic-neighbors</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## accept

<b>Description</b>	Options related to the acceptance of dynamic BGP sessions from remote peers
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">dynamic-neighbors</a> <a href="#">accept</a>
<b>Tree</b>	<a href="#">accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## match [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	<p>List of prefix and group-id combinations from which incoming TCP connections to port 179 will be accepted</p> <p>An incoming TCP connection to port 179 is matched to a list entry if: (a) the source IP does not match a configured BGP neighbor address (b) the list entry prefix is the longest prefix match of the source IP. (c) the source IP is not an IPv6 link-local address associated with an (unnumbered) interface configured for dynamic-neighbor sessions.</p>
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">dynamic-neighbors</a> <a href="#">accept</a> <a href="#">match prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> )
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## [prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	The IP prefix used to match an incoming dynamic BGP session to a group.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">dynamic-neighbors</a> <a href="#">accept</a> <a href="#">match prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**allowed-peer-as** *string*

<b>Description</b>	The allowed AS numbers that can establish incoming BGP sessions from this prefix and group-id-range combination  If the OPEN message from a peer matched to this prefix contains a MyAS number that is not in this allowed list then a NOTIFICATION is sent to the peer with the indication Bad Peer AS. Each entry in this list can be a single AS number or a range of AS numbers in the format as1..as2
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors accept match prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">allowed-peer-as</a> <i>string</i>
<b>Tree</b>	<a href="#">allowed-peer-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**peer-group** *reference*

<b>Description</b>	Reference to a peer-group  When an incoming session is matched to this list entry it is associated with the peer-group referenced by this leaf. The peer-group provides all the parameters needed to complete the establishment of the dynamic session. If the referenced peer-group has a configured peer-as this is ignored by dynamic BGP sessions using the group as a template.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors accept match prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">peer-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">peer-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-sessions** *number*

<b>Description</b>	The maximum number of incoming BGP sessions that will be accepted by the router  A value of 0 means no limit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors accept max-sessions</a> <i>number</i>
<b>Tree</b>	<a href="#">max-sessions</a>
<b>Default</b>	0

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### interface *interface-name* *string*

<b>Description</b>	List of interfaces on which dynamic sessions based on IPv6 link-local address discovery are accepted and initiated.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors interface interface-name</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### interface-name *string*

<b>Description</b>	Reference to a specific subinterface of the form <interface-name>.<subinterface-index>  The referenced subinterface should be enabled for IPv6 and should be configured to accept and send IPv6 router advertisement messages. The referenced subinterface does not need any IPv4 addresses or global-unicast IPv6 addresses (i.e. it can be an unnumbered interface).  When a subinterface is present in this list, incoming TCP connections to the BGP well-known port that are received on this subinterface and sourced from an IPv6 link local address and destined for the IPv6 link local address of the subinterface are automatically accepted.  When a subinterface is present in this list, received IPv6 router advertisement messages on this subinterface automatically trigger BGP session setup towards the sender of these messages, if there is not already an established session.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors interface interface-name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**allowed-peer-as** *string*

<b>Description</b>	Specifies the allowed AS numbers of dynamic BGP neighbors on this interface. If the OPEN message from a peer on this interface contains a MyAS number that is not in this allowed list then a NOTIFICATION is sent to the peer with the indication Bad Peer AS. Each entry in this list can be a single AS number or a range of AS numbers in the string format as1..as2.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors interface interface-name</a> <i>string</i> <a href="#">allowed-peer-as</a> <i>string</i>
<b>Tree</b>	<a href="#">allowed-peer-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	32

**max-sessions** *number*

<b>Description</b>	The maximum number of dynamic sessions that are allowed to be setup on the interface as a result of accepting sessions from link-local addresses or initiating sessions by means of receiving IPv6 router advertisements.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors interface interface-name</a> <i>string</i> <a href="#">max-sessions</a> <i>number</i>
<b>Tree</b>	<a href="#">max-sessions</a>
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**peer-group** *reference*

<b>Description</b>	Reference to a peer-group Specifies the peer-group to associate with dynamic BGP neighbors on this interface. The peer-group provides all the parameters needed to complete the establishment of the dynamic session.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp dynamic-neighbors interface interface-name</a> <i>string</i> <a href="#">peer-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">peer-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## ebgp-default-policy

**Description** Options for controlling the default policies that apply to EBGp sessions

**Context** [network-instance name](#) *string* [protocols bgp ebgp-default-policy](#)

**Tree** [ebgp-default-policy](#)

**Configurable** True

**Platforms** Supported on all platforms

## export-reject-all *boolean*

**Description** When set to true, all outbound routes towards any EBGp peer to which no explicit export policy is applied are treated as though they were rejected by policy

**Context** [network-instance name](#) *string* [protocols bgp ebgp-default-policy export-reject-all](#) *boolean*

**Tree** [export-reject-all](#)

**Default** true

**Configurable** True

**Platforms** Supported on all platforms

## import-reject-all *boolean*

**Description** When set to true, all inbound routes from any EBGp peer to which no explicit import policy is applied are treated as though they were rejected by policy

**Context** [network-instance name](#) *string* [protocols bgp ebgp-default-policy import-reject-all](#) *boolean*

**Tree** [import-reject-all](#)

**Default** true

**Configurable** True

**Platforms** Supported on all platforms

## export-policy *reference*

**Description** Apply an export policy to advertised BGP routes

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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## failure-detection

<b>Description</b>	Options related to methods of detecting BGP session failure
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp failure-detection</a>
<b>Tree</b>	<a href="#">failure-detection</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## enable-bfd *boolean*

<b>Description</b>	The true setting enables Bi-directional Forwarding Detection on BGP sessions belonging to the peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp failure-detection enable-bfd</a> <i>boolean</i>
<b>Tree</b>	<a href="#">enable-bfd</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## fast-failover *boolean*

<b>Description</b>	The true setting causes EBGP and IBGP sessions to drop immediately (and not wait for hold timer expiry) when the local interface that they depend upon for neighbor reachability goes down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp failure-detection fast-failover</a> <i>boolean</i>
<b>Tree</b>	<a href="#">fast-failover</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**graceful-restart**

<b>Description</b>	Options for controlling the behavior of the router as a graceful restart helper
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable graceful restart helper for all address families
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp graceful-restart admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**requested-restart-time** *number*

<b>Description</b>	<p>The restart time encoded in this router's GR capability.</p> <p>If the neighbor honors this request then this is the maximum time allowed for this router to re-establish its TCP connection after a restart. If this time is exceeded, the neighbor is expected to flush stale routes that it was maintaining on behalf of this router.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp graceful-restart requested-restart-time</a> <i>number</i>
<b>Tree</b>	<a href="#">requested-restart-time</a>
<b>Range</b>	1 to 3600
<b>Default</b>	300
<b>Units</b>	seconds
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### stale-routes-time *number*

**Description** The maximum number of seconds that routes received from a helped peer remain stale until they are deleted  
Routes of AFI/SAFI X received from peer Y are marked stale when peer Y goes down and its previous GR capability included AFI/SAFI X.

**Context** [network-instance name](#) *string* [protocols bgp graceful-restart stale-routes-time](#) *number*

**Tree** [stale-routes-time](#)

**Range** 1 to 3600

**Default** 360

**Units** seconds

**Configurable** True

**Platforms** Supported on all platforms

### group [group-name](#) *string*

**Description** Peer group templates

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string*

**Tree** [group](#)

**Configurable** True

**Platforms** Supported on all platforms

### group-name *string*

**Description** The configured name of the peer group

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string*

**String Length** 1 to 64

**Configurable** True

**Platforms** Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the peer group Disable will tear down all the BGP sessions in the group, even if they are administratively enabled at the neighbor level.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**afi-safi** [afi-safi-name](#) *identityref*

<b>Description</b>	List of address families supported by the BGP peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">afi-safi</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**afi-safi-name** *identityref*

<b>Description</b>	The name of a BGP address family, which translates to a specific AFI value and a specific SAFI value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv4-unicast Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)</li> <li>• ipv6-unicast Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)</li> <li>• evpn EVPN routes (AFI = 25, SAFI = 70)</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**add-paths**

<b>Description</b>	Configure support for the advertisement and receipt of multiple paths for the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">add-paths</a>
<b>Tree</b>	<a href="#">add-paths</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**receive** *boolean*

<b>Description</b>	Enable capability negotiation to receive multiple path advertisements from a single peer for a single NLRI belonging to the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">add-paths receive</a> <i>boolean</i>
<b>Tree</b>	<a href="#">receive</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**send** *boolean*

<b>Description</b>	Enable capability negotiation to send multiple path advertisements to a single peer for a single NLRI belonging to the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">add-paths send</a> <i>boolean</i>
<b>Tree</b>	<a href="#">send</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**send-max** *number*

<b>Description</b>	Send the N best paths for a single NLRI, or as many as possible until there are no more valid paths to send.
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This ensures the best path is advertised but does not limit the additional paths to being 'used' paths.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">add-paths send-max</a> <i>number</i>
<b>Tree</b>	<a href="#">send-max</a>
<b>Range</b>	1 to 16
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## send-multipath

<b>Description</b>	Send the used paths for a single NLRI, including all paths that are multipaths.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">add-paths send-multipath</a>
<b>Tree</b>	<a href="#">send-multipath</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## admin-state *keyword*

<b>Description</b>	This leaf indicates whether the AFI-SAFI is enabled for the peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## evpn

<b>Description</b>	Options related to the EVPN address family
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **advertise-ipv6-next-hops** *boolean*

<b>Description</b>	Enables advertisement of EVPN routes with IPv6 next-hops to peers in the peer-group  If this is set to true and the local-address used towards the peer is an IPv6 address and BGP is supposed to apply next-hop-self then the route is advertised with the IPv6 local-address as the BGP next-hop. If this is set to false, then the EVPN route is advertised with an IPv4 next-hop.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">evpn advertise-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-ipv6-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **prefix-limit**

<b>Description</b>	Options for configuring the maximum number of EVPN routes allowed to be received from each peer in the peer-group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">evpn prefix-limit</a>
<b>Tree</b>	<a href="#">prefix-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **max-received-routes** *number*

<b>Description</b>	Maximum number of EVPN routes that will be accepted from each neighbor, counting routes accepted and rejected by import policies
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">evpn prefix-limit max-received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">max-received-routes</a>
<b>Range</b>	1 to 4294967295
<b>Default</b>	4294967295

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **warning-threshold-pct** *number*

<b>Description</b>	When the number of EVPN routes received from the peer (counting routes accepted and rejected by import policy) reaches this percentage of the max-received-routes limit, BGP raises a warning log event
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">evpn prefix-limit warning-threshold-pct</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold-pct</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ipv4-unicast**

<b>Description</b>	Options related to the IPv4-unicast address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **advertise-ipv6-next-hops** *boolean*

<b>Description</b>	Enables advertisement of IPv4 routes with IPv6 next-hops to peers in the group  When set to true, BGP advertises IPv4-unicast routes to its peers using MP-BGP. If the local-address towards a peer is an IPv6 address and BGP is supposed to apply next-hop-self the MP_REACH_NLRI will encode the IPv6 local-address as the BGP next-hop. When set to false, BGP is required to advertise an IPv4 next-hop with every IPv4 route (and to encode that in the NEXT_HOP attribute).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast advertise-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-ipv6-next-hops</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### prefix-limit

**Description** Options for configuring the maximum number of IPv4 routes allowed to be received from each peer in the group

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [afi-safi afi-safi-name](#) *identityref* [ipv4-unicast prefix-limit](#)

**Tree** [prefix-limit](#)

**Configurable** True

**Platforms** Supported on all platforms

### max-received-routes *number*

**Description** Maximum number of IPv4 routes that will be accepted from each neighbor, counting routes accepted and rejected by import policies

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [afi-safi afi-safi-name](#) *identityref* [ipv4-unicast prefix-limit max-received-routes](#) *number*

**Tree** [max-received-routes](#)

**Range** 1 to 4294967295

**Default** 4294967295

**Configurable** True

**Platforms** Supported on all platforms

### prevent-teardown *boolean*

**Description** When false the session is immediately torn down when the number of received IPv4 routes exceeds the configured limit.

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [afi-safi afi-safi-name](#) *identityref* [ipv4-unicast prefix-limit prevent-teardown](#) *boolean*

**Tree** [prevent-teardown](#)

**Default** false

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**warning-threshold-pct** *number*

<b>Description</b>	When the number of IPv4 routes received from any group peer (counting routes accepted and rejected by import policy) reaches this percentage of the max-received-routes limit, BGP raises a warning log event
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast prefix-limit warning-threshold-pct</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold-pct</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**receive-ipv6-next-hops** *boolean*

<b>Description</b>	Enables the advertisement of the RFC 5549 capability to receive IPv4 routes with IPv6 next-hops  When set to true, BGP advertises an extended NH encoding (RFC 5549) capability to its peers. This capability indicates that local router is prepared to accept BGP routes for IPv4 NLRI with IPv6 next-hops from peers in the scope of the command. When set to false, BGP handles received IPV4 routes with IPv6 next-hops as an error and applies treat-as-withdraw.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv4-unicast receive-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">receive-ipv6-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-unicast**

<b>Description</b>	Options related to the IPv6-unicast address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast</a>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix-limit**

<b>Description</b>	Options for configuring the maximum number of IPv6 routes allowed to be received from each peer in the group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast prefix-limit</a>
<b>Tree</b>	<a href="#">prefix-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-received-routes** *number*

<b>Description</b>	Maximum number of IPv6 routes that will be accepted from each neighbor, counting routes accepted and rejected by import policies
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast prefix-limit max-received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">max-received-routes</a>
<b>Range</b>	1 to 4294967295
<b>Default</b>	4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prevent-teardown** *boolean*

<b>Description</b>	When false the session is immediately torn down when the number of received IPv6 routes exceeds the configured limit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast prefix-limit prevent-teardown</a> <i>boolean</i>
<b>Tree</b>	<a href="#">prevent-teardown</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**warning-threshold-pct** *number*

<b>Description</b>	When the number of IPv6 routes received from any group peer (counting routes accepted and rejected by import policy) reaches this percentage of the max-received-routes limit, BGP raises a warning log event
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">afi-safi afi-safi-name</a> <i>identityref</i> <a href="#">ipv6-unicast prefix-limit warning-threshold-pct</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold-pct</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**as-path-options**

<b>Description</b>	Options for handling the AS_PATH in received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options</a>
<b>Tree</b>	<a href="#">as-path-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**allow-own-as** *number*

<b>Description</b>	The maximum number of times the global AS number or a local AS number of the BGP instance can appear in any received AS_PATH before it is considered a loop and considered invalid  When this value is changed the new value applies only to the routes received after the change is committed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options allow-own-as</a> <i>number</i>
<b>Tree</b>	<a href="#">allow-own-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**remove-private-as**

<b>Description</b>	Container with options for removing private AS numbers (2-byte and 4-byte) from the advertised AS path towards all peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options remove-private-as</a>
<b>Tree</b>	<a href="#">remove-private-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ignore-peer-as** *boolean*

<b>Description</b>	If set to true then do not delete or replace a private AS number that is the same as the peer AS number
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options remove-private-as ignore-peer-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ignore-peer-as</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**leading-only** *boolean*

<b>Description</b>	If set to true then only delete or replace private AS numbers that appear before the first occurrence of a non-private ASN in the sequence of most recent ASNs in the AS path
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options remove-private-as leading-only</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leading-only</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mode** *keyword*

<b>Description</b>	The method by which private AS numbers are removed from the advertised AS_PATH attribute
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options remove-private-as mode</a> <i>keyword</i>

<b>Tree</b>	<a href="#">mode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>disabled Do not strip or replace any private AS numbers</li> <li>delete Delete private AS numbers, shortening the AS path</li> <li>replace Replace private AS numbers with the local AS number used towards the peer, maintaining the AS path length</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### replace-peer-as *boolean*

<b>Description</b>	If set to true then replace every occurrence of the peer AS number that is present in the advertised AS path with the local AS number used towards the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">as-path-options replace-peer-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">replace-peer-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### authentication

<b>Description</b>	Container with authentication options that apply to all peers in this peer-group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### keychain *reference*

<b>Description</b>	Reference to a keychain. The keychain type must be tcp-md5.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">authentication keychain</a> <i>reference</i>
<b>Tree</b>	<a href="#">keychain</a>

<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**password** *string*

<b>Description</b>	Configures an MD5 authentication password for use with neighboring devices.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">authentication password</a> <i>string</i>
<b>Tree</b>	<a href="#">password</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**description** *string*

<b>Description</b>	A user provided description string for the peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**export-policy** *reference*

<b>Description</b>	Apply an export policy to advertised BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**failure-detection**

<b>Description</b>	Options related to methods of detecting BGP session failure
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">failure-detection</a>
<b>Tree</b>	<a href="#">failure-detection</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**enable-bfd** *boolean*

<b>Description</b>	The true setting enables Bi-directional Forwarding Detection on BGP sessions belonging to the peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">failure-detection enable-bfd</a> <i>boolean</i>
<b>Tree</b>	<a href="#">enable-bfd</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**fast-failover** *boolean*

<b>Description</b>	The true setting causes EBGp and IBGP sessions in the peer group to drop immediately (and not wait for hold timer expiry) when the local interface that they depend upon for neighbor reachability goes down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">failure-detection fast-failover</a> <i>boolean</i>
<b>Tree</b>	<a href="#">fast-failover</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**graceful-restart**

<b>Description</b>	Options related to router behavior as a graceful restart helper
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable graceful restart helper for all address families
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">graceful-restart admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**requested-restart-time** *number*

<b>Description</b>	<p>The restart time encoded in this router's GR capability.</p> <p>If the neighbor honors this request then this is the maximum time allowed for this router to re-establish its TCP connection after a restart. If this time is exceeded, the neighbor is expected to flush stale routes that it was maintaining on behalf of this router.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">graceful-restart requested-restart-time</a> <i>number</i>
<b>Tree</b>	<a href="#">requested-restart-time</a>
<b>Range</b>	1 to 3600
<b>Default</b>	300
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**stale-routes-time** *number*

<b>Description</b>	<p>The maximum number of seconds that routes received from a neighbor that is being helped remain stale until they are deleted.</p> <p>Routes of AFI/SAFI X received from peer Y are marked stale when peer Y goes down and its previous GR capability included AFI/SAFI X.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">graceful-restart stale-routes-time</a> <i>number</i>

<b>Tree</b>	<a href="#">stale-routes-time</a>
<b>Range</b>	1 to 3600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **import-policy** *reference*

<b>Description</b>	Apply an import policy to received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">import-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">import-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **local-as**

<b>Description</b>	Options related to the local autonomous-system number advertised by this router to its peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">local-as</a>
<b>Tree</b>	<a href="#">local-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **as-number** *number*

<b>Description</b>	The local autonomous system number used to override the global ASN on this group of BGP sessions  Sets the ASN value that this router sends in its OPEN message towards its peer in the group.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">local-as as-number</a> <i>number</i>
<b>Tree</b>	<a href="#">as-number</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **prepend-global-as** *boolean*

**Description** When set to true, the global ASN value is prepended to the AS path in outbound routes towards each BGP peer in the group  
If a session is EBGP (peer-as is not equal to the local-as) then the local-as is prepended as the final step, so that the local-as is the first element in the AS\_PATH received by the peer.

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [local-as prepend-global-as](#) *boolean*

**Tree** [prepend-global-as](#)

**Configurable** True

**Platforms** Supported on all platforms

### **prepend-local-as** *boolean*

**Description** When set to true, the local AS value is prepended to the AS path of inbound routes from each EBGP peer belonging to the group

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [local-as prepend-local-as](#) *boolean*

**Tree** [prepend-local-as](#)

**Configurable** True

**Platforms** Supported on all platforms

### **local-preference** *number*

**Description** The value of the local-preference attribute that is added to received routes from EBGP peers in the group  
It is also used to encode the local preference attribute for locally generated BGP routes.

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [local-preference](#) *number*

**Tree** [local-preference](#)

**Configurable** True

**Platforms** Supported on all platforms

**maintenance-group** *string*

<b>Description</b>	State field to display the maintenance group to which this group belongs to.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">maintenance-group</a> <i>string</i>
<b>Tree</b>	<a href="#">maintenance-group</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**multihop**

<b>Description</b>	Configuration parameters specifying the multihop behaviour for IBGP and EBGP peers in the peer group.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">multihop</a>
<b>Tree</b>	<a href="#">multihop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	<p>When enabled, IBGP and EBGP peers in the group are allowed to be indirectly connected by up to N hops, where N is controlled by the maximum-hops parameter. When disabled, only IBGP peers within the peer group support multihop.</p> <p>This can be overridden on a per neighbor basis. It is inherited by neighbors in the peer-group only if maximum-hops is also specified.</p> <p>By default this is disabled.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">multihop admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**maximum-hops** *number*

<b>Description</b>	<p>This sets the maximum number of routing hops towards each peer. It determines the IP TTL value in originated BGP TCP/IP packets. By default the TTL is set to 1 towards EBGP peers and 64 towards IBGP peers. This leaf sets a new IP TTL to use towards both EBGP and IBGP peers in the peer group.</p> <p>This can be overridden on a per neighbor basis. It is inherited by neighbors in the peer-group only if admin-state is also specified.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">multihop maximum-hops</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-hops</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**next-hop-self** *boolean*

<b>Description</b>	<p>When set to true, the next-hop in all IPv4-unicast, IPv6-unicast and EVPN BGP routes advertised to all IBGP peers in the peer-group is set equal to the local-address used on each session (or to the router ID if the NLRI is IPv6 and there is no IPv6 local address to use). This is independent of the route origin (EBGP, IBGP-client, IBGP-non-client or redistributed direct/static/aggregate route).</p> <p>When set to false, normal BGP rules from RFC 4271 apply.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">next-hop-self</a> <i>boolean</i>
<b>Tree</b>	<a href="#">next-hop-self</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**peer-as** *number*

<b>Description</b>	<p>The autonomous system number expected from each peer in the group</p> <p>A configured session with a peer does not come up if this value does not match the AS value reported by the peer in its OPEN message.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">peer-as</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-as</a>

<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## route-reflector

<b>Description</b>	Container with route reflection configuration options.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">route-reflector</a>
<b>Tree</b>	<a href="#">route-reflector</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## client *boolean*

<b>Description</b>	When this is set to true all configured and dynamic BGP sessions that belong to the peer-group are considered RR clients.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">route-reflector client</a> <i>boolean</i>
<b>Tree</b>	<a href="#">client</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## cluster-id (*number | dotted-quad*)

<b>Description</b>	The cluster-id to insert into the CLUSTER_LIST attribute when reflecting routes received by or sent to each client in the peer-group. The default is inherited from instance level configuration.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">route-reflector cluster-id</a> ( <i>number   dotted-quad</i> )
<b>Tree</b>	<a href="#">cluster-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## send-community

<b>Description</b>	Options for controlling the sending of BGP communities to peers in the group
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-community</a>
<b>Tree</b>	<a href="#">send-community</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**large** *boolean*

<b>Description</b>	The false setting causes BGP to strip all large (12 byte) BGP communities from all outbound routes advertised to each peer in the group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-community large</a> <i>boolean</i>
<b>Tree</b>	<a href="#">large</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**standard** *boolean*

<b>Description</b>	The false setting causes BGP to strip all standard (4 byte) communities from all outbound routes advertised to each peer in the group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-community standard</a> <i>boolean</i>
<b>Tree</b>	<a href="#">standard</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**send-default-route**

<b>Description</b>	Options for controlling the generation of default routes towards group peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-default-route</a>
<b>Tree</b>	<a href="#">send-default-route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**export-policy** *reference*

<b>Description</b>	The name of a policy that should be applied to the advertised default routes, in order to set their attributes to non-default values Only the default-action of this policy is parsed and applied.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-default-route export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-unicast** *boolean*

<b>Description</b>	Enables the sending of a synthetically generated default IPv4 route [0/0] to each peer in the group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-default-route ipv4-unicast</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-unicast** *boolean*

<b>Description</b>	Enables the sending of a synthetically generated default IPv6 route [::/0] to each peer in the group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">send-default-route ipv6-unicast</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Container for BGP statistics.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**disabled-peers** *number*

<b>Description</b>	The number of configured BGP peers associated with the peer-group that are administratively disabled
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics disabled-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">disabled-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dynamic-peers** *number*

<b>Description</b>	The number of dynamic BGP peers associated with the peer-group that are currently in the established state, counting sessions resulting from accepted incoming TCP connections and outgoing TCP connections triggered by LLDP auto-discovery
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics dynamic-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">dynamic-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**path-memory** *number*

<b>Description</b>	The total number of bytes required to store the path attribute objects used by received BGP routes associated with the peer-group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics path-memory</a> <i>number</i>
<b>Tree</b>	<a href="#">path-memory</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-active-routes** *number*

<b>Description</b>	The total number of received BGP routes that are active (installed for forwarding) and associated with the peer-group, summed across all address families
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics total-active-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">total-active-routes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-paths** *number*

<b>Description</b>	The total number of path attribute objects used by received BGP routes associated with the peer-group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics total-paths</a> <i>number</i>
<b>Tree</b>	<a href="#">total-paths</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-peers** *number*

<b>Description</b>	The total number of configured BGP peers associated with the peer-group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics total-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">total-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-prefixes** *number*

<b>Description</b>	The total number of unique NLRI contained in all received BGP routes associated with the BGP instance or the peer-group.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics total-prefixes</a> <i>number</i>

<b>Tree</b>	<a href="#">total-prefixes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **total-received-routes** *number*

<b>Description</b>	The total number of received BGP routes associated with the peer-group, summed across all address families
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics total-received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">total-received-routes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **up-peers** *number*

<b>Description</b>	The number of configured BGP peers associated with the peer-group that are currently in the established state
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">statistics up-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">up-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **timers**

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **connect-retry** *number*

<b>Description</b>	The time interval in seconds between successive attempts to establish a session with a peer
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">timers connect-retry</a> <i>number</i>
<b>Tree</b>	<a href="#">connect-retry</a>
<b>Range</b>	1 to 65535
<b>Default</b>	120
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hold-time** *number*

<b>Description</b>	The hold-time interval in seconds that the router proposes to the peer in its OPEN message  The actual in-use hold-time is negotiated to the lowest value proposed by the two peers. A negotiated value of 0 suppresses the sending of keepalives by both peers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">timers hold-time</a> <i>number</i>
<b>Tree</b>	<a href="#">hold-time</a>
<b>Range</b>	0   3 to 65535
<b>Default</b>	90
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keepalive-interval** *number*

<b>Description</b>	The interval in seconds between successive keepalive messages sent to the peer  The period between one keepalive message and the next is the minimum of this configured value and 1/3 of the negotiated hold-time duration. A value of 0 suppresses the sending of keepalives to the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">timers keepalive-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">keepalive-interval</a>
<b>Range</b>	0 to 21845
<b>Units</b>	seconds
<b>Configurable</b>	True



**Platforms** Supported on all platforms

### minimum-advertisement-interval *number*

**Description** The value assigned to the MinRouteAdvertisementIntervalTimer of RFC 4271, for both EBGp and IBGP sessions

Each session runs its own independent timer and the timer affects both route advertisements and route withdrawals, regardless of address family. For route withdrawals only, this timer is bypassed if rapid-withdrawal is set to true.

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [timers minimum-advertisement-interval](#) *number*

**Tree** [minimum-advertisement-interval](#)

**Range** 1 to 255

**Default** 5

**Units** seconds

**Configurable** True

**Platforms** Supported on all platforms

### prefix-limit-restart-timer *number*

**Description** Time interval in seconds after which the BGP session is re-established after being torn down due to exceeding any prefix limit (of any address family)

This only applies if prevent-teardown is false.

**Context** [network-instance name](#) *string* [protocols bgp group group-name](#) *string* [timers prefix-limit-restart-timer](#) *number*

**Tree** [prefix-limit-restart-timer](#)

**Default** 0

**Units** seconds

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### trace-options

**Description** Debug traceoptions for BGP

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<b>Context</b>	<code>network-instance name string protocols bgp group group-name string trace-options</code>
<b>Tree</b>	<code>trace-options</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**flag name keyword**

<b>Description</b>	Tracing parameters
<b>Context</b>	<code>network-instance name string protocols bgp group group-name string trace-options flag name keyword</code>
<b>Tree</b>	<code>flag</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name keyword**

<b>Description</b>	Enter the name context
<b>Context</b>	<code>network-instance name string protocols bgp group group-name string trace-options flag name keyword</code>
<b>Options</b>	<ul style="list-style-type: none"> <li>• events Trace all BGP events.</li> <li>• packets Trace all BGP protocol packets.</li> <li>• open Trace BGP open packets.</li> <li>• keepalive Trace BGP keepalive packets.</li> <li>• graceful-restart Trace Graceful Restart events.</li> <li>• timers Trace routing protocol timer processing.</li> <li>• route Trace BGP route table manager.</li> <li>• notification Trace Bgp notification.</li> <li>• socket</li> </ul>

- Trace socket info.
- update
- Trace update info.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### modifier *keyword*

<b>Description</b>	Enter the modifier context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">trace-options flag name</a> <i>keyword</i> <a href="#">modifier</a> <i>keyword</i>
<b>Tree</b>	<a href="#">modifier</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• detail To enable detailed tracing. Includes both received and sent packets.</li> <li>• receive To enable tracing for the packets which are received.</li> <li>• send To enable tracing for the sent packets.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### transport

<b>Description</b>	Enter the transport context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">transport</a>
<b>Tree</b>	<a href="#">transport</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### local-address (*ipv4-address* | *ipv6-address* | *string*)

<b>Description</b>	<p>The local TCP endpoint of used for all BGP sessions in the group</p> <p>This also the source address for next-hop-self, if it applies. The local-address can be specified as an IP address that is resolvable to a local interface.</p> <p>This address must be the primary address of an interface, otherwise the session will not come up.</p>
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">transport local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i>   <i>string</i> )
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **mtu-discovery** *boolean*

<b>Description</b>	Turns path mtu discovery for BGP TCP sessions on (true) or off (false)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">transport mtu-discovery</a> <i>boolean</i>
<b>Tree</b>	<a href="#">mtu-discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **passive-mode** *boolean*

<b>Description</b>	The true setting causes BGP to wait for the peer to initiate the TCP connection  The false setting causes BGP to initiate a TCP connection whenever the BGP session is started or restarted.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">transport passive-mode</a> <i>boolean</i>
<b>Tree</b>	<a href="#">passive-mode</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **tcp-mss** *number*

<b>Description</b>	The maximum segment size for each BGP TCP session belonging to the group  If the configured tcp-mss value is higher than the discovered path MTU it has no effect and the path MTU is used as the operational TCP MSS.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">transport tcp-mss</a> <i>number</i>

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<b>Tree</b>	<a href="#">tcp-mss</a>
<b>Range</b>	536 to 9446
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **under-maintenance** *boolean*

<b>Description</b>	State field to determine if this bgp group is in maintenance mode.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">under-maintenance</a> <i>boolean</i>
<b>Tree</b>	<a href="#">under-maintenance</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **import-policy** *reference*

<b>Description</b>	Apply an import policy to received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp import-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">import-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **local-preference** *number*

<b>Description</b>	The value of the local-preference attribute that is added to received routes from EBGP peers  It is also used to encode the local preference attribute for locally generated BGP routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp local-preference</a> <i>number</i>
<b>Tree</b>	<a href="#">local-preference</a>
<b>Default</b>	100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**maintenance-group** *string*

<b>Description</b>	State field to display the maintenance group to which this bgp instance belongs to.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp maintenance-group</a> <i>string</i>
<b>Tree</b>	<a href="#">maintenance-group</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor peer-address** (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	Create a configured BGP session
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> )
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**peer-address** (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	The transport address of the BGP peer The peer-address must be a valid IPv4 unicast address, IPv6 global unicast address or IPv6 link-local address. An IPv6 link-local address requires the interface scope to be identified, using a format such as fe80::1234%ethernet-1/1.1
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the peer Disable will tear down the BGP session (return it to IDLE state).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable

<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### advertised-capabilities *keyword*

<b>Description</b>	List of BGP capabilities advertised by the local routing device to the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">advertised-capabilities</a> <i>keyword</i>
<b>Tree</b>	<a href="#">advertised-capabilities</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• MP_BGP</li> <li>• ROUTE_REFRESH</li> <li>• EXT_NH_ENCODING</li> <li>• GRACEFUL_RESTART</li> <li>• 4-OCTET_ASN</li> <li>• ORF_SEND_EXCOMM</li> <li>• ORF_RECEIVE_EXCOMM</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### afi-safi [afi-safi-name](#) *identityref*

<b>Description</b>	List of address families supported by the BGP neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">afi-safi</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### afi-safi-name *identityref*

<b>Description</b>	The name of a BGP address family, which translates to a specific AFI value and a specific SAFI value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv4-unicast</li> </ul>

Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)

- ipv6-unicast

Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)

- evpn

EVPN routes (AFI = 25, SAFI = 70)

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### active-routes *number*

<b>Description</b>	The number of routes belonging to this AFI/SAFI received from the peer that are currently installed for forwarding
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">active-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">active-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### add-paths

<b>Description</b>	Configure support for the advertisement and receipt of multiple paths for the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths</a>
<b>Tree</b>	<a href="#">add-paths</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### receive *boolean*

<b>Description</b>	Enable capability negotiation to receive multiple path advertisements from a single peer for a single NLRI belonging to the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths</a> <a href="#">receive</a> <i>boolean</i>



<b>Tree</b>	<a href="#">receive</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### send *boolean*

<b>Description</b>	Enable capability negotiation to send multiple path advertisements to a single peer for a single NLRI belonging to the AFI/SAFI
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths</a> <a href="#">send</a> <i>boolean</i>
<b>Tree</b>	<a href="#">send</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### send-max *number*

<b>Description</b>	Send the N best paths for a single NLRI, or as many as possible until there are no more valid paths to send.  This ensures the best path is advertised but does not limit the additional paths to being 'used' paths.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">add-paths</a> <a href="#">send-max</a> <i>number</i>
<b>Tree</b>	<a href="#">send-max</a>
<b>Range</b>	1 to 16
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### send-multipath

<b>Description</b>	Send the used paths for a single NLRI, including all paths that are multipaths.
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<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) afi-safi afi-safi-name identityref add-paths send-multipath</a>
<b>Tree</b>	<a href="#">send-multipath</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **admin-state** *keyword*

<b>Description</b>	This leaf indicates whether support for the AFI-SAFI is enabled/advertised to the neighbor
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) afi-safi afi-safi-name identityref admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **evpn**

<b>Description</b>	Options related to the EVPN address family
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) afi-safi afi-safi-name identityref evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **advertise-ipv6-next-hops** *boolean*

<b>Description</b>	<p>Enables advertisement of EVPN routes with IPv6 next-hops to peers</p> <p>If this is set to true and the local-address used towards the peer is an IPv6 address and BGP is supposed to apply next-hop-self then the route is advertised with the IPv6 local-address as the BGP next-hop. If this is set to false, then the EVPN route is advertised with an IPv4 next-hop.</p>
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref evpn advertise-ipv6-next-hops</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-ipv6-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## prefix-limit

<b>Description</b>	Options for configuring the maximum number of EVPN routes allowed to be received from the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref evpn prefix-limit</a>
<b>Tree</b>	<a href="#">prefix-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## max-received-routes *number*

<b>Description</b>	Maximum number of EVPN routes that will be accepted from the neighbor, counting routes accepted and rejected by import policies
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref evpn prefix-limit max-received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">max-received-routes</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## warning-threshold-pct *number*

<b>Description</b>	When the number of EVPN routes received from the peer (counting routes accepted and rejected by import policy) reaches this percentage of the max-received-routes limit, BGP raises a warning log event
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref evpn prefix-limit warning-threshold-pct</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold-pct</a>

<b>Range</b>	0 to 100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv4-unicast

<b>Description</b>	Options related to the IPv4-unicast address family
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) afi-safi afi-safi-name identityref ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## advertise-ipv6-next-hops *boolean*

<b>Description</b>	<p>Enables advertisement of IPv4 routes with IPv6 next-hops to the peer</p> <p>When set to true, BGP advertises IPv4-unicast routes using MP-BGP. If the local-address towards the peer is an IPv6 address and BGP is supposed to apply next-hop-self the MP_REACH_NLRI will encode the IPv6 local-address as the BGP next-hop. When set to false, BGP is required to advertise an IPv4 next-hop with every IPv4 route (and to encode that in the NEXT_HOP attribute).</p>
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) afi-safi afi-safi-name identityref ipv4-unicast advertise-ipv6-next-hops boolean</a>
<b>Tree</b>	<a href="#">advertise-ipv6-next-hops</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## prefix-limit

<b>Description</b>	Options for configuring the maximum number of IPv4 routes allowed to be received from the peer
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) afi-safi afi-safi-name identityref ipv4-unicast prefix-limit</a>
<b>Tree</b>	<a href="#">prefix-limit</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### max-received-routes *number*

**Description** Maximum number of IPv4 routes that will be accepted from the neighbor, counting routes accepted and rejected by import policies

**Context** [network-instance name string protocols bgp neighbor peer-address \(ipv4-address-with-zone | ipv6-address-with-zone\) afi-safi afi-safi-name identityref ipv4-unicast prefix-limit max-received-routes number](#)

**Tree** [max-received-routes](#)

**Range** 1 to 4294967295

**Configurable** True

**Platforms** Supported on all platforms

### prefix-limit-exceeded *boolean*

**Description** Changes from false to true when the number of received IPv4 routes increases to max-received-routes + 1 and remains true until the number of received IPv4 routes decreases back to max-received-routes (applicable if prevent-teardown = true) or until the session is re-established (applicable if prevent-teardown = false)

**Context** [network-instance name string protocols bgp neighbor peer-address \(ipv4-address-with-zone | ipv6-address-with-zone\) afi-safi afi-safi-name identityref ipv4-unicast prefix-limit prefix-limit-exceeded boolean](#)

**Tree** [prefix-limit-exceeded](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### prevent-teardown *boolean*

**Description** When false the session is immediately torn down when the number of received IPv4 routes exceeds the configured limit.

**Context** [network-instance name string protocols bgp neighbor peer-address \(ipv4-address-with-zone | ipv6-address-with-zone\) afi-safi afi-safi-name identityref ipv4-unicast prefix-limit prevent-teardown boolean](#)

**Tree** [prevent-teardown](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### warning-threshold-pct *number*

**Description** When the number of IPv4 routes received from the peer (counting routes accepted and rejected by import policy) reaches this percentage of the max-received-routes limit, BGP raises a warning log event

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [afi-safi afi-safi-name](#) [identityref](#) [ipv4-unicast prefix-limit warning-threshold-pct](#) *number*

**Tree** [warning-threshold-pct](#)

**Range** 0 to 100

**Configurable** True

**Platforms** Supported on all platforms

### receive-ipv6-next-hops *boolean*

**Description** Enables the advertisement of the RFC 5549 capability to receive IPv4 routes with IPv6 next-hops

When set to true, BGP advertises an extended NH encoding (RFC 5549) capability to the peer. This capability indicates that local router is prepared to accept BGP routes for IPv4 NLRI with IPv6 next-hops from the peer. When set to false, BGP handles received IPV4 routes with IPv6 next-hops as an error and applies treat-as-withdraw.

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [afi-safi afi-safi-name](#) [identityref](#) [ipv4-unicast receive-ipv6-next-hops](#) *boolean*

**Tree** [receive-ipv6-next-hops](#)

**Configurable** True

**Platforms** Supported on all platforms

### ipv6-unicast

**Description** Options related to the IPv6-unicast address family

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [afi-safi afi-safi-name](#) [identityref](#) [ipv6-unicast](#)

**Tree** [ipv6-unicast](#)

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### prefix-limit

<b>Description</b>	Options for configuring the maximum number of IPv6 routes allowed to be received from the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast prefix-limit</a>
<b>Tree</b>	<a href="#">prefix-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### max-received-routes *number*

<b>Description</b>	Maximum number of IPv6 routes that will be accepted from the neighbor, counting routes accepted and rejected by import policies
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast prefix-limit max-received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">max-received-routes</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### prefix-limit-exceeded *boolean*

<b>Description</b>	Changes from false to true when the number of received IPv6 routes increases to max-received-routes + 1 and remains true until the number of received IPv6 routes decreases back to max-received-routes (applicable if prevent-teardown = true) or until the session is re-established (applicable if prevent-teardown = false)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">ipv6-unicast prefix-limit prefix-limit-exceeded</a> <i>boolean</i>
<b>Tree</b>	<a href="#">prefix-limit-exceeded</a>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### prevent-teardown *boolean*

**Description** When false the session is immediately torn down when the number of received IPv6 routes exceeds the configured limit.

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast prefix-limit](#) [prevent-teardown](#) *boolean*

**Tree** [prevent-teardown](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### warning-threshold-pct *number*

**Description** When the number of IPv6 routes received from the peer (counting routes accepted and rejected by import policy) reaches this percentage of the max-received-routes limit, BGP raises a warning log event

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [afi-safi](#) [afi-safi-name](#) [identityref](#) [ipv6-unicast prefix-limit](#) [warning-threshold-pct](#) *number*

**Tree** [warning-threshold-pct](#)

**Range** 0 to 100

**Configurable** True

**Platforms** Supported on all platforms

### oper-state *keyword*

**Description** Enter the oper-state context

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [afi-safi](#) [afi-safi-name](#) [identityref](#) [oper-state](#) *keyword*

**Tree** [oper-state](#)

**Options**

- up  
Negotiated operational state of the IPv4 unicast address family is up
- down



Negotiated operational state of the IPv4 unicast address family is down

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **received-routes** *number*

<b>Description</b>	The number of routes belonging to this AFI/SAFI received from the peer, including routes rejected by import policy
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">received-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">received-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **rejected-routes** *number*

<b>Description</b>	The number of routes belonging to this AFI/SAFI received from the peer that were rejected by import policy
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">rejected-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">rejected-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **sent-routes** *number*

<b>Description</b>	The number of routes belonging to this AFI/SAFI advertised as reachable to the peer
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">afi-safi</a> <a href="#">afi-safi-name</a> <a href="#">identityref</a> <a href="#">sent-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">sent-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## as-path-options

<b>Description</b>	Options for handling the AS_PATH in received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">as-path-options</a>
<b>Tree</b>	<a href="#">as-path-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## allow-own-as *number*

<b>Description</b>	The maximum number of times the global AS number or a local AS number of the BGP instance can appear in any received AS_PATH before it is considered a loop and considered invalid
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">as-path-options</a> <a href="#">allow-own-as number</a>
<b>Tree</b>	<a href="#">allow-own-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## remove-private-as

<b>Description</b>	Container with options for removing private AS numbers (2-byte and 4-byte) from the advertised AS path towards all peers
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">as-path-options</a> <a href="#">remove-private-as</a>
<b>Tree</b>	<a href="#">remove-private-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ignore-peer-as *boolean*

<b>Description</b>	If set to true then do not delete or replace a private AS number that is the same as the peer AS number
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">as-path-options</a> <a href="#">remove-private-as</a> <a href="#">ignore-peer-as</a> <a href="#">boolean</a>
<b>Tree</b>	<a href="#">ignore-peer-as</a>

<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### leading-only *boolean*

<b>Description</b>	If set to true then only delete or replace private AS numbers that appear before the first occurrence of a non-private ASN in the sequence of most recent ASNs in the AS path
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">as-path-options</a> <a href="#">remove-private-as</a> <a href="#">leading-only</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leading-only</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mode *keyword*

<b>Description</b>	The method by which private AS numbers are removed from the advertised AS_PATH attribute
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">as-path-options</a> <a href="#">remove-private-as</a> <a href="#">mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• disabled Do not strip or replace any private AS numbers</li> <li>• delete Delete private AS numbers, shortening the AS path</li> <li>• replace Replace private AS numbers with the local AS number used towards the peer, maintaining the AS path length</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**replace-peer-as** *boolean*

<b>Description</b>	If set to true then replace every occurrence of the peer AS number that is present in the advertised AS path with the local AS number used towards the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">as-path-options replace-peer-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">replace-peer-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authentication**

<b>Description</b>	Container with authentication options that apply to this specific peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain** *reference*

<b>Description</b>	Reference to a keychain. The keychain type must be tcp-md5.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">authentication keychain reference</a>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**password** *string*

<b>Description</b>	Configures an MD5 authentication password for use with neighboring devices.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">authentication password</a> <i>string</i>
<b>Tree</b>	<a href="#">password</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**transmit-active** *boolean*

<b>Description</b>	Reads true when the TCP segments being sent to the peer have authentication data.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">authentication transmit-active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">transmit-active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**description** *string*

<b>Description</b>	A user provided description string for the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**discovered-by-lldp** *boolean*

<b>Description</b>	Set to true if the peer IP address is known through LLDP (irrespective of whether the final TCP connection was originated by this router or not)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">discovered-by-lldp</a> <i>boolean</i>
<b>Tree</b>	<a href="#">discovered-by-lldp</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dynamic-neighbor** *boolean*

<b>Description</b>	Indicates true if the neighbor is a dynamic peer that resulted from an accepted incoming TCP connection or an outgoing TCP connection triggered by LLDP auto-discovery
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">dynamic-neighbor</a> <i>boolean</i>
<b>Tree</b>	<a href="#">dynamic-neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**established-transitions** *number*

<b>Description</b>	The total number of times the BGP FSM transitioned into the established state for this peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">established-transitions</a> <i>number</i>
<b>Tree</b>	<a href="#">established-transitions</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**export-policy** *reference*

<b>Description</b>	Apply an export policy to advertised BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**failure-detection**

<b>Description</b>	Options related to methods of detecting BGP session failure
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">failure-detection</a>
<b>Tree</b>	<a href="#">failure-detection</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**enable-bfd** *boolean*

<b>Description</b>	The true setting enables Bi-directional Forwarding Detection on BGP sessions belonging to the peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">failure-detection enable-bfd</a> <i>boolean</i>
<b>Tree</b>	<a href="#">enable-bfd</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**fast-failover** *boolean*

<b>Description</b>	The true setting the EBGP or IBGP session to drop immediately (and not wait for hold timer expiry) when the local interface that it depends upon for neighbor reachability goes down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">failure-detection fast-failover</a> <i>boolean</i>
<b>Tree</b>	<a href="#">fast-failover</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**graceful-restart**

<b>Description</b>	Options related to router behavior as a graceful restart helper
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable graceful restart helper for all address families
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">graceful-restart admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### helper-active *boolean*

<b>Description</b>	Set to true when the router is actively helping the neighbor for at least one address family - i.e. for that address family the peer restarted with F=1 in its capability and the stale-routes-time has not expired yet
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">graceful-restart helper-active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">helper-active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-restart-time *string*

<b>Description</b>	The last time the peer restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">graceful-restart last-restart-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-restart-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### neighbor-capability

<b>Description</b>	Container for information about the last GR capability received from the neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">graceful-restart neighbor-capability</a>



<b>Tree</b>	<a href="#">neighbor-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**afi-safi** [name](#) *keyword*

<b>Description</b>	List of AFI/SAFI TLVs that were contained in the neighbor's last GR capability
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">graceful-restart</a> <a href="#">neighbor-capability</a> <a href="#">afi-safi name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">afi-safi</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *keyword*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">graceful-restart</a> <a href="#">neighbor-capability</a> <a href="#">afi-safi name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv4-unicast</a></li> <li>• <a href="#">ipv6-unicast</a></li> <li>• <a href="#">evpn</a></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**forwarding-preserved** *boolean*

<b>Description</b>	The F-bit setting in the AFI/SAFI TLV
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">graceful-restart</a> <a href="#">neighbor-capability</a> <a href="#">afi-safi name</a> <i>keyword</i> <a href="#">forwarding-preserved</a> <i>boolean</i>
<b>Tree</b>	<a href="#">forwarding-preserved</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**restart-time** *number*

<b>Description</b>	The value of the Restart Time in the neighbor's last GR capability
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">graceful-restart neighbor-capability restart-time</a> <i>number</i>
<b>Tree</b>	<a href="#">restart-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**number-of-restarts** *number*

<b>Description</b>	The number of times the peer has restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">graceful-restart number-of-restarts</a> <i>number</i>
<b>Tree</b>	<a href="#">number-of-restarts</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**requested-restart-time** *number*

<b>Description</b>	The restart time encoded in this router's GR capability.  If the neighbor honors this request then this is the maximum time allowed for this router to re-establish its TCP connection after a restart. If this time is exceeded, the neighbor is expected to flush stale routes that it was maintaining on behalf of this router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">graceful-restart requested-restart-time</a> <i>number</i>
<b>Tree</b>	<a href="#">requested-restart-time</a>
<b>Range</b>	1 to 3600
<b>Default</b>	300
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**stale-routes-time** *number*

<b>Description</b>	The maximum number of seconds that routes received from a helped peer remain stale until they are deleted  Routes of AFI/SAFI X received from peer Y are marked stale when peer Y goes down and its previous GR capability included AFI/SAFI X.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">graceful-restart</a> <a href="#">stale-routes-time</a> <i>number</i>
<b>Tree</b>	<a href="#">stale-routes-time</a>
<b>Range</b>	1 to 3600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**import-policy** *reference*

<b>Description</b>	Apply an import policy to received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">import-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">import-policy</a>
<b>Reference</b>	<a href="#">routing-policy</a> <a href="#">policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**last-established** *string*

<b>Description</b>	The time when the session last transitioned into or out of the established state  Uptime or downtime of the session can be calculated from this state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">last-established</a> <i>string</i>
<b>Tree</b>	<a href="#">last-established</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## **last-event** *keyword*

<b>Description</b>	Enter the last-event context
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">last-event</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-event</a>
<b>Options</b>	<ul style="list-style-type: none"><li>• none</li><li>• start</li><li>• stop</li><li>• open</li><li>• close</li><li>• openFail</li><li>• error</li><li>• connectRetry</li><li>• holdTime</li><li>• keepAlive</li><li>• recvOpen</li><li>• recvKeepAlive</li><li>• recvUpdate</li><li>• recvNotify</li><li>• startPassive</li><li>• parseError</li><li>• outOfMemory</li><li>• rtmLimitExceed</li><li>• outOfProtNHIndex</li><li>• outOfNHIndex</li><li>• labelAllocFailed</li><li>• lspldAllocFailed</li><li>• collisionResolution</li><li>• adminShutdown</li><li>• adminReset</li><li>• configChange</li><li>• maxPrefixExceed</li><li>• maxPfxExcdLog</li><li>• trackingPolMismatch</li><li>• receivedMalformedAttr</li><li>• adminResetHard</li></ul>

	<ul style="list-style-type: none"> <li>peerDamping</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-state** *keyword*

<b>Description</b>	Previous state of the session
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">last-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>idle</li> <li>connect</li> <li>active</li> <li>opensent</li> <li>openconfirm</li> <li>established</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **local-as**

<b>Description</b>	Options related to the local autonomous-system number advertised by this router to the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">local-as</a>
<b>Tree</b>	<a href="#">local-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **as-number** *number*

<b>Description</b>	<p>The local autonomous system number used to override the global ASN on this session</p> <p>Sets the ASN value that this router sends in its OPEN message towards its peer.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">local-as</a> <a href="#">as-number</a> <i>number</i>

<b>Tree</b>	<a href="#">as-number</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **prepend-global-as** *boolean*

<b>Description</b>	When set to true, the global ASN value is prepended to the AS path in outbound routes towards the peer  If a session is EBGP (peer-as is not equal to the local-as) then the local-as is prepended as the final step, so that the local-as is the first element in the AS_PATH received by the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">local-as</a> <a href="#">prepend-global-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">prepend-global-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **prepend-local-as** *boolean*

<b>Description</b>	When set to true, the local AS value is prepended to the AS path of inbound routes from the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">local-as</a> <a href="#">prepend-local-as</a> <i>boolean</i>
<b>Tree</b>	<a href="#">prepend-local-as</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **local-preference** *number*

<b>Description</b>	The value of the local-preference attribute that is added to received routes from the peer, if it is EBGP  It is also used to encode the local preference attribute for locally generated BGP routes.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">local-preference</a> <i>number</i>
<b>Tree</b>	<a href="#">local-preference</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **maintenance-group** *string*

<b>Description</b>	State field to display the maintenance group to which this neighbor belongs to.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">maintenance-group</a> <i>string</i>
<b>Tree</b>	<a href="#">maintenance-group</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **multihop**

<b>Description</b>	Configuration parameters specifying the multihop behaviour for an EBGp peer. This is not applicable to an IBGP peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">multihop</a>
<b>Tree</b>	<a href="#">multihop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	When enabled, the peer is allowed to be indirectly connected by up to N hops, where N is controlled by the maximum-hops parameter. When disabled, multihop is allowed only if the peer type is IBGP.  This overrides the group setting for admin-state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">multihop</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### maximum-hops *number*

<b>Description</b>	This sets the maximum number of routing hops towards the peer. It determines the IP TTL value in originated BGP TCP/IP packets. By default the TTL is set to 1 towards an EBGP peer and 64 towards an IBGP peer.  This overrides the group setting for maximum-hops.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">multihop maximum-hops number</a>
<b>Tree</b>	<a href="#">maximum-hops</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### next-hop-self *boolean*

<b>Description</b>	When set to true, the next-hop in all IPv4-unicast, IPv6-unicast and EVPN BGP routes advertised to the peer, if IBGP, is set equal to the local-address used on this session (or to the router ID if the NLRI is IPv6 and there is no IPv6 local address to use). This is independent of the route origin (EBGP, IBGP-client, IBGP-non-client or redistributed direct/static/aggregate route).  When set to false, normal BGP rules from RFC 4271 apply.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">next-hop-self boolean</a>
<b>Tree</b>	<a href="#">next-hop-self</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### peer-as *number*

<b>Description</b>	The autonomous system number expected from the peer  A configured session with a peer does not come up if this value does not match the AS value reported by the peer in its OPEN message.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">peer-as number</a>
<b>Tree</b>	<a href="#">peer-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**peer-group** *reference*

<b>Description</b>	A reference to the peer-group template to use for this BGP session This is not immutable.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">peer-group reference</a>
<b>Tree</b>	<a href="#">peer-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**peer-router-id** *string*

<b>Description</b>	The BGP identifier advertised by the peer in its OPEN message
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">peer-router-id string</a>
<b>Tree</b>	<a href="#">peer-router-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**peer-type** *keyword*

<b>Description</b>	The session type. The type is EBGP when the local AS and peer AS are different, and the type is IBGP when the local AS and peer AS have the same value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">peer-type keyword</a>
<b>Tree</b>	<a href="#">peer-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>ibgp</code> Indicates that the peer is IBGP (<code>local-as == peer-as</code>).</li> <li>• <code>ebgp</code> Indicates that the peer is EBGP (<code>local-as != peer-as</code>).</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**received-afi-safi** *keyword*

<b>Description</b>	List of multiprotocol BGP address families supported by the peer, derived from the AFI/SAFI list in the MP-BGP capability received by the local routing device from the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-afi-safi</a> <i>keyword</i>
<b>Tree</b>	<a href="#">received-afi-safi</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv4-unicast</li> <li>• ipv6-unicast</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**received-capabilities** *keyword*

<b>Description</b>	List of BGP capabilities received by the local routing device from the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-capabilities</a> <i>keyword</i>
<b>Tree</b>	<a href="#">received-capabilities</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• MP_BGP</li> <li>• ROUTE_REFRESH</li> <li>• EXT_NH_ENCODING</li> <li>• GRACEFUL_RESTART</li> <li>• 4-OCTET_ASN</li> <li>• ORF_SEND_EXCOMM</li> <li>• ORF_RECEIVE_EXCOMM</li> <li>• ADD_PATH</li> <li>• LONG_LIVED_GR</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**received-end-of-rib** *keyword*

<b>Description</b>	List of address families for which the peer has signaled the End of RIB marker
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-end-of-rib</a> <i>keyword</i>
<b>Tree</b>	<a href="#">received-end-of-rib</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv4-unicast</li> <li>• ipv6-unicast</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## received-messages

<b>Description</b>	Container for state information about BGP messages received from the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages</a>
<b>Tree</b>	<a href="#">received-messages</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-notification-error-code *keyword*

<b>Description</b>	The error code in the last NOTIFICATION received from this peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages last-notification-error-code</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-notification-error-code</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• Message Header Error</li> <li>• Open Message Error</li> <li>• Update Message Error</li> <li>• Hold Timer Error</li> <li>• Finite State Machine Error</li> <li>• Cease</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-notification-error-subcode *keyword*

<b>Description</b>	The error subcode in the last NOTIFICATION received from the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages last-notification-error-subcode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-notification-error-subcode</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• Connection Not Synchronized</li> <li>• Bad Message Length</li> <li>• Bad Message Type</li> <li>• Unsupported Version Number</li> <li>• Bad Peer As</li> <li>• Bad BGP Identifier</li> <li>• Unsupported Optional Parameter</li> <li>• Unacceptable Hold Time</li> <li>• UPDATE Message Error subcodes</li> <li>• Malformed Attribute List</li> <li>• Unrecognized Well-known Attribute</li> <li>• Missing Well-known Attribute</li> <li>• Attribute Flags Error</li> <li>• Attribute Length Error</li> <li>• Invalid ORIGIN Attribute</li> <li>• Invalid NEXT_HOP Attribute</li> <li>• Optional Attribute Error</li> <li>• Invalid Network Field</li> <li>• Malformed AS_PATH</li> <li>• Maximum Number of Prefixes Reached</li> <li>• Administrative Shutdown</li> <li>• Peer De-configured</li> <li>• Administrative Reset</li> <li>• Connection Rejected</li> <li>• Other Configuration Change</li> <li>• Connection Collision Resolution</li> <li>• Out of Resources</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-notification-time** *string*

<b>Description</b>	Timestamp representing the time of the last Notification message received from the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">received-messages last-notification-time</a> <i>string</i>

<b>Tree</b>	<a href="#">last-notification-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-update-time** *string*

<b>Description</b>	The timestamp when the last UPDATE was received from this peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages last-update-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **malformed-updates** *number*

<b>Description</b>	Number of BGP UPDATE messages received from the peer that were malformed but recoverable through treat-as-withdraw or attribute-discard (i.e. without session reset)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages malformed-updates</a> <i>number</i>
<b>Tree</b>	<a href="#">malformed-updates</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **queue-depth** *number*

<b>Description</b>	The number of messages received from the peer currently queued.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages queue-depth</a> <i>number</i>
<b>Tree</b>	<a href="#">queue-depth</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-refresh** *number*

<b>Description</b>	Number of BGP ROUTE_REFRESH messages received from the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages route-refresh</a> <i>number</i>
<b>Tree</b>	<a href="#">route-refresh</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-messages** *number*

<b>Description</b>	Total number of BGP messages received from the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages total-messages</a> <i>number</i>
<b>Tree</b>	<a href="#">total-messages</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-non-updates** *number*

<b>Description</b>	Number of BGP NON UPDATE messages received from the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">received-messages total-non-updates</a> <i>number</i>
<b>Tree</b>	<a href="#">total-non-updates</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-notifications** *number*

<b>Description</b>	Number of BGP Notification messages received from the peer over the lifetime of its configuration or since the last clear.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">received-messages</a> <a href="#">total-notifications</a> <i>number</i>
<b>Tree</b>	<a href="#">total-notifications</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-updates** *number*

<b>Description</b>	Number of BGP UPDATE messages received from the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">received-messages</a> <a href="#">total-updates</a> <i>number</i>
<b>Tree</b>	<a href="#">total-updates</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-reflector**

<b>Description</b>	Container with route reflection configuration options.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">route-reflector</a>
<b>Tree</b>	<a href="#">route-reflector</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**client** *boolean*

<b>Description</b>	When this is set to true this BGP session is considered an RR client.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">route-reflector client</a> <i>boolean</i>
<b>Tree</b>	<a href="#">client</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**cluster-id** (*number | dotted-quad*)

<b>Description</b>	The cluster-id to insert into the CLUSTER_LIST attribute when reflecting routes received by or sent to this client. The default is inherited from group or instance level configuration.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">route-reflector cluster-id</a> ( <a href="#">number</a>   <a href="#">dotted-quad</a> )
<b>Tree</b>	<a href="#">cluster-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**send-community**

<b>Description</b>	Options for controlling the sending of BGP communities to the peer
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">send-community</a>
<b>Tree</b>	<a href="#">send-community</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**large** *boolean*

<b>Description</b>	The false setting causes BGP to strip all large (12 byte) BGP communities from all outbound routes advertised to the peer
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">send-community large</a> <i>boolean</i>
<b>Tree</b>	<a href="#">large</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**standard** *boolean*

<b>Description</b>	The false setting causes BGP to strip all standard (4 byte) communities from all outbound routes advertised to the peer
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">send-community standard</a> <i>boolean</i>
<b>Tree</b>	<a href="#">standard</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### send-default-route

<b>Description</b>	Options for controlling the generation of default routes towards the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">send-default-route</a>
<b>Tree</b>	<a href="#">send-default-route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### export-policy *reference*

<b>Description</b>	The name of a policy that should be applied to the advertised default routes, in order to set their attributes to non-default values Only the default-action of this policy is parsed and applied.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">send-default-route</a> <a href="#">export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy</a> <i>policy name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv4-unicast *boolean*

<b>Description</b>	Enables the sending of a synthetically generated default IPv4 route [0/0] to the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">send-default-route</a> <a href="#">ipv4-unicast</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-unicast** *boolean*

<b>Description</b>	Enables the sending of a synthetically generated default IPv6 route [::/0] to the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">send-default-route</a> <a href="#">ipv6-unicast</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sent-end-of-rib** *keyword*

<b>Description</b>	List of address families for which this router sent the peer an End of RIB marker
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">sent-end-of-rib</a> <i>keyword</i>
<b>Tree</b>	<a href="#">sent-end-of-rib</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv4-unicast</a></li> <li>• <a href="#">ipv6-unicast</a></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sent-messages**

<b>Description</b>	Container for state information about BGP messages sent to the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">sent-messages</a>
<b>Tree</b>	<a href="#">sent-messages</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-notification-error-code** *keyword*

<b>Description</b>	The error code in the last NOTIFICATION sent to this peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">sent-messages</a> <a href="#">last-notification-error-code</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-notification-error-code</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• Message Header Error</li> <li>• Open Message Error</li> <li>• Update Message Error</li> <li>• Hold Timer Error</li> <li>• Finite State Machine Error</li> <li>• Cease</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-notification-error-subcode** *keyword*

<b>Description</b>	The error subcode in the last NOTIFICATION sent to this peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">sent-messages</a> <a href="#">last-notification-error-subcode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-notification-error-subcode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• Connection Not Synchronized</li> <li>• Bad Message Length</li> <li>• Bad Message Type</li> <li>• Unsupported Version Number</li> <li>• Bad Peer As</li> <li>• Bad BGP Identifier</li> <li>• Unsupported Optional Parameter</li> <li>• Unacceptable Hold Time</li> <li>• UPDATE Message Error subcodes</li> <li>• Malformed Attribute List</li> <li>• Unrecognized Well-known Attribute</li> <li>• Missing Well-known Attribute</li> <li>• Attribute Flags Error</li> <li>• Attribute Length Error</li> <li>• Invalid ORIGIN Attribute</li> <li>• Invalid NEXT_HOP Attribute</li> <li>• Optional Attribute Error</li> <li>• Invalid Network Field</li> <li>• Malformed AS_PATH</li> <li>• Maximum Number of Prefixes Reached</li> </ul>

- Administrative Shutdown
- Peer De-configured
- Administrative Reset
- Connection Rejected
- Other Configuration Change
- Connection Collision Resolution
- Out of Resources

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-notification-time** *string*

<b>Description</b>	Timestamp representing the time of the last Notification message sent to the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">sent-messages</a> <a href="#">last-notification-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-notification-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **queue-depth** *number*

<b>Description</b>	The number of messages queued to be sent to the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">neighbor</a> <a href="#">peer-address</a> ( <a href="#">ipv4-address-with-zone</a>   <a href="#">ipv6-address-with-zone</a> ) <a href="#">sent-messages</a> <a href="#">queue-depth</a> <i>number</i>
<b>Tree</b>	<a href="#">queue-depth</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-refresh** *number*

<b>Description</b>	Number of BGP ROUTE_REFRESH messages sent to the peer over the lifetime of its configuration or since the last clear.
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<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) sent-messages route-refresh number</a>
<b>Tree</b>	<a href="#">route-refresh</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **total-messages** *number*

<b>Description</b>	Total number of BGP messages sent to the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) sent-messages total-messages number</a>
<b>Tree</b>	<a href="#">total-messages</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **total-non-updates** *number*

<b>Description</b>	Number of BGP NON UPDATE messages sent to the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) sent-messages total-non-updates number</a>
<b>Tree</b>	<a href="#">total-non-updates</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **total-notifications** *number*

<b>Description</b>	Number of BGP Notification messages sent to the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) sent-messages total-notifications number</a>
<b>Tree</b>	<a href="#">total-notifications</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-updates** *number*

<b>Description</b>	Number of BGP UPDATE messages sent to the peer over the lifetime of its configuration or since the last clear.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">sent-messages total-updates number</a>
<b>Tree</b>	<a href="#">total-updates</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**session-state** *keyword*

<b>Description</b>	Current state of the session
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">session-state keyword</a>
<b>Tree</b>	<a href="#">session-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• idle</li> <li>• connect</li> <li>• active</li> <li>• opensent</li> <li>• openconfirm</li> <li>• established</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**slow-peer** *keyword*

<b>Description</b>	Set to 'yes' if, after the last BGP restart, the session was in a lesser state than established when the min-wait-to-advertise timer expired Set to unknown if the min-wait-to-advertise time has not yet elapsed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">slow-peer keyword</a>

<b>Tree</b>	<a href="#">slow-peer</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• yes</li> <li>• no</li> <li>• unknown</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## timers

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## connect-retry *number*

<b>Description</b>	The time interval in seconds between successive attempts to establish a session with a peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers connect-retry number</a>
<b>Tree</b>	<a href="#">connect-retry</a>
<b>Range</b>	1 to 65535
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hold-time *number*

<b>Description</b>	<p>The hold-time interval in seconds that the router proposes to the peer in its OPEN message</p> <p>The actual in-use hold-time is negotiated to the lowest value proposed by the two peers. A negotiated value of 0 suppresses the sending of keepalives by both peers.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers hold-time number</a>

<b>Tree</b>	<a href="#">hold-time</a>
<b>Range</b>	0   3 to 65535
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### keepalive-interval *number*

<b>Description</b>	<p>The interval in seconds between successive keepalive messages sent to the peer</p> <p>The period between one keepalive message and the next is the minimum of this configured (or inherited) value and 1/3 of the negotiated hold-time duration. A value of 0 suppresses the sending of keepalives to the peer.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers keepalive-interval number</a>
<b>Tree</b>	<a href="#">keepalive-interval</a>
<b>Range</b>	0 to 21845
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### minimum-advertisement-interval *number*

<b>Description</b>	<p>The value assigned to the MinRouteAdvertisementIntervalTimer of RFC 4271, for both EBGp and IBGP sessions</p> <p>Each session runs its own independent timer and the timer affects both route advertisements and route withdrawals, regardless of address family. For route withdrawals only, this timer is bypassed if rapid-withdrawal is set to true.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers minimum-advertisement-interval number</a>
<b>Tree</b>	<a href="#">minimum-advertisement-interval</a>
<b>Range</b>	1 to 255
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**negotiated-hold-time** *number*

<b>Description</b>	The operational hold-time It is negotiated to the lowest value proposed by the two peers. A negotiated value of 0 suppresses the sending of keepalives by both peers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers negotiated-hold-time number</a>
<b>Tree</b>	<a href="#">negotiated-hold-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**negotiated-keepalive-interval** *number*

<b>Description</b>	The operational keepalive interval It is the minimum of the configured value and 1/3 of the negotiated-hold-time. A value of 0 suppresses the sending of keepalives to the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers negotiated-keepalive-interval number</a>
<b>Tree</b>	<a href="#">negotiated-keepalive-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-connect-retry-time** *string*

<b>Description</b>	The time when the next connect retry attempt will occur
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers next-connect-retry-time string</a>
<b>Tree</b>	<a href="#">next-connect-retry-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**prefix-limit-restart-timer** *number*

<b>Description</b>	Time interval in seconds after which the BGP session is re-established after being torn down due to exceeding any prefix limit (of any address family) This only applies if prevent-teardown is false.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">timers prefix-limit-restart-timer number</a>
<b>Tree</b>	<a href="#">prefix-limit-restart-timer</a>
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**trace-options**

<b>Description</b>	Debug traceoptions for BGP
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**flag** *name keyword*

<b>Description</b>	Tracing parameters
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">trace-options flag name keyword</a>
<b>Tree</b>	<a href="#">flag</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *keyword*

<b>Description</b>	Enter the name context
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**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [trace-options flag name](#) *keyword*

- Options**
- **events**  
Trace all BGP events.
  - **packets**  
Trace all BGP protocol packets.
  - **open**  
Trace BGP open packets.
  - **keepalive**  
Trace BGP keepalive packets.
  - **graceful-restart**  
Trace Graceful Restart events.
  - **timers**  
Trace routing protocol timer processing.
  - **route**  
Trace BGP route table manager.
  - **notification**  
Trace Bgp notification.
  - **socket**  
Trace socket info.
  - **update**  
Trace update info.

**Configurable** True

**Platforms** Supported on all platforms

### **modifier** *keyword*

**Description** Enter the modifier context

**Context** [network-instance name](#) *string* [protocols bgp neighbor peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*) [trace-options flag name](#) *keyword* [modifier](#) *keyword*

**Tree** [modifier](#)

- Options**
- **detail**  
To enable detailed tracing. Includes both received and sent packets.
  - **receive**  
To enable tracing for the packets which are received.

- send  
To enable tracing for the sent packets.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## transport

<b>Description</b>	Enter the transport context
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) transport</a>
<b>Tree</b>	<a href="#">transport</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## local-address ([ipv4-address](#) | [ipv6-address](#) | [string](#))

<b>Description</b>	The local TCP endpoint of used for the BGP session This also the source address for next-hop-self, if it applies. The local-address can be specified as an IP address that is resolvable to a local interface. This address must be the primary address of an interface, otherwise the session will not come up.
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) transport local-address (ipv4-address   ipv6-address   string)</a>
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## local-port *number*

<b>Description</b>	Local TCP port used for the TCP connection to the peer
<b>Context</b>	<a href="#">network-instance name string protocols bgp neighbor peer-address (ipv4-address-with-zone   ipv6-address-with-zone) transport local-port number</a>
<b>Tree</b>	<a href="#">local-port</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mtu-discovery** *boolean*

<b>Description</b>	Turns path mtu discovery on (true) or off (false)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">transport mtu-discovery</a> <i>boolean</i>
<b>Tree</b>	<a href="#">mtu-discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**passive-mode** *boolean*

<b>Description</b>	The true setting causes BGP to wait for the peer to initiate the TCP connection  The false setting causes BGP to initiate a TCP connection whenever the BGP session is started or restarted.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">transport passive-mode</a> <i>boolean</i>
<b>Tree</b>	<a href="#">passive-mode</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**remote-port** *number*

<b>Description</b>	Remote TCP port used by the peer for its TCP connection to the local router
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> ) <a href="#">transport remote-port</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-port</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tcp-mss** *number*

<b>Description</b>	The maximum segment size for the BGP TCP session  If the configured tcp-mss value is higher than the discovered path MTU it has no effect and the path MTU is used as the operational TCP MSS.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">transport tcp-mss</a> <i>number</i>
<b>Tree</b>	<a href="#">tcp-mss</a>
<b>Range</b>	536 to 9446
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **under-maintenance** *boolean*

<b>Description</b>	State field to determine if this bgp neighbor is in maintenance mode.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">under-maintenance</a> <i>boolean</i>
<b>Tree</b>	<a href="#">under-maintenance</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Enter the oper-state context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Operational state of BGP is up.</li> <li>• down Operational state of BGP is down.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **preference**

<b>Description</b>	Options for controlling the route table preference of BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp preference</a>
<b>Tree</b>	<a href="#">preference</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ebgp number**

<b>Description</b>	The default route table preference for all EBGp learned routes BGP import policies can override this preference value on a route by route basis.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp preference ebgp number</a>
<b>Tree</b>	<a href="#">ebgp</a>
<b>Range</b>	1 to 255
<b>Default</b>	170
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ibgp number**

<b>Description</b>	The default route table preference for all IBGP learned routes BGP import policies can override this preference value on a route by route basis.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp preference ibgp number</a>
<b>Tree</b>	<a href="#">ibgp</a>
<b>Range</b>	1 to 255
<b>Default</b>	170
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**route-advertisement**

<b>Description</b>	Options for controlling route advertisement behavior
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp route-advertisement</a>
<b>Tree</b>	<a href="#">route-advertisement</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rapid-withdrawal boolean**

<b>Description</b>	The true setting enables rapid-withdraw towards BGP peers
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If there is only one BGP route for an NLRI in BGP RIB, and this route is withdrawn or becomes invalid, `rapid-withdraw` causes BGP to immediately send a withdrawal of the BGP route even if the `min-route-advertisement` timer has not expired.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp route-advertisement rapid-withdrawal</a> <i>boolean</i>
<b>Tree</b>	<a href="#">rapid-withdrawal</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **wait-for-fib-install** *boolean*

<b>Description</b>	The true setting causes BGP to NOT advertise initial reachability to a prefix, or a change of reachability to a prefix, until it receives acknowledgment from FIB manager that the route change has been applied  Does not apply to route withdrawals.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp route-advertisement wait-for-fib-install</a> <i>boolean</i>
<b>Tree</b>	<a href="#">wait-for-fib-install</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **route-reflector**

<b>Description</b>	Container with route reflection configuration options.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp route-reflector</a>
<b>Tree</b>	<a href="#">route-reflector</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **client** *boolean*

<b>Description</b>	When this is set to true all configured and dynamic sessions of the BGP instance are considered RR clients, subject to overrides at more specific levels of configuration.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp route-reflector client</a> <i>boolean</i>



<b>Tree</b>	<a href="#">client</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **cluster-id** (*number* | *dotted-quad*)

<b>Description</b>	The cluster-id to insert into the CLUSTER_LIST attribute when reflecting routes received by or sent to clients in this scope of this container. The default is the router-id.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp route-reflector</a> <a href="#">cluster-id</a> ( <i>number</i>   <i>dotted-quad</i> )
<b>Tree</b>	<a href="#">cluster-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **router-id** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The BGP identifier used by this BGP instance in all of its OPEN messages. Any non-zero value is supported.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp</a> <a href="#">router-id</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">router-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **send-community**

<b>Description</b>	Options for controlling the sending of BGP communities to all peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp</a> <a href="#">send-community</a>
<b>Tree</b>	<a href="#">send-community</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### large *boolean*

<b>Description</b>	The false setting causes BGP to strip all large (12 byte) BGP communities from all outbound routes advertised to peers
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">send-community</a> <a href="#">large</a> <i>boolean</i>
<b>Tree</b>	<a href="#">large</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### standard *boolean*

<b>Description</b>	The false setting causes BGP to strip all standard (4 byte) communities from all outbound routes advertised to peers
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">send-community</a> <a href="#">standard</a> <i>boolean</i>
<b>Tree</b>	<a href="#">standard</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### statistics

<b>Description</b>	Container for BGP statistics.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### disabled-peers *number*

<b>Description</b>	The number of configured BGP peers that are administratively disabled
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">statistics</a> <a href="#">disabled-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">disabled-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dynamic-peers** *number*

<b>Description</b>	The number of dynamic BGP peers that are currently in the established state, counting sessions resulting from accepted incoming TCP connections and outgoing TCP connections triggered by LLDP auto-discovery
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp statistics dynamic-peers</a> <i>number</i>
<b>Tree</b>	<a href="#">dynamic-peers</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**path-memory** *number*

<b>Description</b>	The total number of bytes required to store the path attribute objects used by all received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp statistics path-memory</a> <i>number</i>
<b>Tree</b>	<a href="#">path-memory</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-active-routes** *number*

<b>Description</b>	The total number of received BGP routes that are active (installed for forwarding), summed across all address families
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp statistics total-active-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">total-active-routes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-paths** *number*

<b>Description</b>	The total number of path attribute objects used by all received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp statistics total-paths</a> <i>number</i>
<b>Tree</b>	<a href="#">total-paths</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **total-peers** *number*

**Description** The total number of configured BGP peers

**Context** [network-instance name](#) *string* [protocols bgp statistics total-peers](#) *number*

**Tree** [total-peers](#)

**Configurable** False

**Platforms** Supported on all platforms

### **total-prefixes** *number*

**Description** The total number of unique NLRI contained in all received BGP routes associated with the BGP instance or the peer-group.

**Context** [network-instance name](#) *string* [protocols bgp statistics total-prefixes](#) *number*

**Tree** [total-prefixes](#)

**Configurable** False

**Platforms** Supported on all platforms

### **total-received-routes** *number*

**Description** The total number of received BGP routes, summed across all address families

**Context** [network-instance name](#) *string* [protocols bgp statistics total-received-routes](#) *number*

**Tree** [total-received-routes](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **up-peers** *number*

**Description** The number of configured BGP peers that are currently in the established state

**Context** [network-instance name](#) *string* [protocols bgp statistics up-peers](#) *number*

**Tree** [up-peers](#)

**Configurable** False

**Platforms** Supported on all platforms

## trace-options

**Description** Debug traceoptions for BGP

**Context** [network-instance name](#) *string* [protocols bgp trace-options](#)

**Tree** [trace-options](#)

**Configurable** True

**Platforms** Supported on all platforms

## flag *name keyword*

**Description** Tracing parameters

**Context** [network-instance name](#) *string* [protocols bgp trace-options flag name](#) *keyword*

**Tree** [flag](#)

**Configurable** True

**Platforms** Supported on all platforms

## name *keyword*

**Description** Enter the name context

**Context** [network-instance name](#) *string* [protocols bgp trace-options flag name](#) *keyword*

**Options**

- `events`  
Trace all BGP events.
- `packets`  
Trace all BGP protocol packets.
- `open`  
Trace BGP open packets.
- `keepalive`  
Trace BGP keepalive packets.
- `graceful-restart`  
Trace Graceful Restart events.
- `timers`  
Trace routing protocol timer processing.
- `route`  
Trace BGP route table manager.

- notification  
Trace Bgp notification.
- socket  
Trace socket info.
- update  
Trace update info.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### modifier *keyword*

<b>Description</b>	Enter the modifier context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp trace-options flag name</a> <i>keyword</i> <a href="#">modifier keyword</a>
<b>Tree</b>	<a href="#">modifier</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• detail To enable detailed tracing. Includes both received and sent packets.</li> <li>• receive To enable tracing for the packets which are received.</li> <li>• send To enable tracing for the sent packets.</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### transport

<b>Description</b>	Options related to the TCP transport of BGP sessions
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp transport</a>
<b>Tree</b>	<a href="#">transport</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mtu-discovery *boolean*

<b>Description</b>	Turns path mtu discovery for BGP TCP sessions on (true) or off (false) If this is unconfigured then the setting comes from <a href="#">network-instance/mtu/path-mtu-discovery</a> .
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Changing the value of `network-instance/mtu/path-mtu-discovery` takes effect only for new connections established after the change

<b>Context</b>	<code>network-instance name string protocols bgp transport mtu-discovery boolean</code>
<b>Tree</b>	<code>mtu-discovery</code>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### `single-hop-connected-check` *boolean*

<b>Description</b>	<p>Control whether a single-hop BGP session should be allowed to setup if its 'related interface' is down.</p> <p>If <code>single-hop-connected-check</code> is false, a single-hop BGP session (EBGP or IBGP) to any IPv4 or IPv6 neighbor address is permitted to establish if there is ANY valid (IPv6 global unicast, IPv4 link-local, or IPv4 global) route to that neighbor address, regardless of whether the 'related interface' is up or down.</p> <p>If <code>single-hop-connected-check</code> is true (default value), a single-hop BGP session (EBGP or IBGP) to any IPv4 or IPv6 neighbor address is only permitted to transition from idle to a higher state if the 'related interface' is up.</p> <p>The 'related interface' of a single hop peer is the subinterface associated with the IPv6 link local neighbor address or else the subinterface with a primary or secondary IP address and prefix-length that covers the neighbor address.</p>
<b>Context</b>	<code>network-instance name string protocols bgp transport single-hop-connected-check boolean</code>
<b>Tree</b>	<code>single-hop-connected-check</code>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### `tcp-mss` *number*

<b>Description</b>	<p>The maximum segment size for all BGP TCP sessions</p> <p>If the configured <code>tcp-mss</code> value is higher than the discovered path MTU it has no effect and the path MTU is used as the operational TCP MSS</p>
<b>Context</b>	<code>network-instance name string protocols bgp transport tcp-mss number</code>
<b>Tree</b>	<code>tcp-mss</code>

<b>Range</b>	536 to 9446
<b>Default</b>	1024
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **under-maintenance** *boolean*

<b>Description</b>	State field to determine if the bgp instance is in maintenance mode.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp under-maintenance</a> <i>boolean</i>
<b>Tree</b>	<a href="#">under-maintenance</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **bgp-evpn**

<b>Description</b>	Enable the bgp-evpn context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn</a>
<b>Tree</b>	<a href="#">bgp-evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **bgp-instance** [id](#) *reference*

<b>Description</b>	bgp evpn instances configured in net-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance</a> <a href="#">id</a> <i>reference</i>
<b>Tree</b>	<a href="#">bgp-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1

### **id** *reference*

<b>Description</b>	Enter the id context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance</a> <a href="#">id</a> <i>reference</i>



<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **admin-state** *keyword*

<b>Description</b>	Configurable state of the bgp evpn instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ecmp** *number*

<b>Description</b>	The supported range of ECMP values for layer-2 aliasing (in mac-vrf instances) or layer-3 ecmp (in routed instances).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">ecmp</a> <i>number</i>
<b>Tree</b>	<a href="#">ecmp</a>
<b>Range</b>	1 to 8
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **encapsulation-type** *keyword*

<b>Description</b>	encap type of the bgp evpn instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">encapsulation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">encapsulation-type</a>

<b>Default</b>	vxlan
<b>Options</b>	<ul style="list-style-type: none"> <li>• vxlan</li> <li>• mpls</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **evi number**

<b>Description</b>	<p>EVPN Instance identifier associated to the bgp-evpn instance.</p> <p>Used for auto-derivation of:</p> <p>In addition, the evi value is used for the EVPN Multi-Homing Designated Forwarder (DF) Election.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">evi number</a>
<b>Tree</b>	<a href="#">evi</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-down-reason keyword**

<b>Description</b>	The reason for the bgp-instance being down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">oper-down-reason keyword</a>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• admin-disabled</li> <li>• no-nexthop-address</li> <li>• no-evi</li> <li>• network-instance-oper-down</li> <li>• no-vxlan-interface</li> <li>• ethernet-segment-multiple-subinterfaces</li> <li>• vxlan_interface_no_source_ip_address</li> <li>• bgp-vpn-instance-oper-down</li> <li>• no-mpls-label</li> <li>• no-mcid</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-state** *keyword*

<b>Description</b>	This leaf contains the operational state of bgp-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> </ul>

- **waiting**  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## routes

<b>Description</b>	Enter the routes context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp-evpn</a> <a href="#">bgp-instance id</a> <i>reference</i> <a href="#">routes</a>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## bridge-table

<b>Description</b>	Enable the bridge-table context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp-evpn</a> <a href="#">bgp-instance id</a> <i>reference</i> <a href="#">routes</a> <a href="#">bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## inclusive-mcast

<b>Description</b>	Enter the inclusive-mcast context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp-evpn</a> <a href="#">bgp-instance id</a> <i>reference</i> <a href="#">routes</a> <a href="#">bridge-table</a> <a href="#">inclusive-mcast</a>
<b>Tree</b>	<a href="#">inclusive-mcast</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**advertise** *boolean*

<b>Description</b>	If set to true an inclusive multicast route will be advertised in this evpn instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table inclusive-mcast advertise</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**originating-ip** (*ipv4-address | ipv6-address*)

<b>Description</b>	The originating ip-address that the inclusive multicast route will be advertised with in this evpn instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table inclusive-mcast originating-ip</a> ( <i>ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">originating-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mac-ip**

<b>Description</b>	Enter the mac-ip context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table mac-ip</a>
<b>Tree</b>	<a href="#">mac-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**advertise** *boolean*

<b>Description</b>	If set to true then local mac's and local mac-ip pairs will be advertised in this evpn instance
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table mac-ip advertise</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **advertise-arp-nd-only-with-mac-table-entry** *boolean*

<b>Description</b>	If set to true then local mac-ip records will be advertised in this evpn instance only when we have a local mac in the mac-table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table mac-ip advertise-arp-nd-only-with-mac-table-entry</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-arp-nd-only-with-mac-table-entry</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **next-hop** (*keyword | ipv4-address | ipv6-address*)

<b>Description</b>	The ip-address that will be used as the bgp next-hop for all routes advertised in this evpn instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table next-hop</a> ( <i>keyword   ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">next-hop</a>
<b>Default</b>	use-system-ipv4-address
<b>Options</b>	<ul style="list-style-type: none"> <li>• use-system-ipv4-address</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **vlan-aware-bundle-eth-tag** *number*

<b>Description</b>	Configures the Ethernet Tag ID to be encoded in the EVPN routes for control-plane interoperability mode with VLAN-aware bundle services.
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When set to a non-zero value, all the EVPN routes advertised for the MAC-VRF will be advertised with this value into the ethernet-tag-id field of the routes.

On reception of EVPN routes with non-zero ethernet-tag-id, BGP will import the routes based on the import route-target as usual. However, the system checks the received ethernet-tag-id field and will process only those routes whose ethernet-tag-id match the local vlan-aware-bundle-eth-tag value.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes bridge-table vlan-aware-bundle-eth-tag</a> <i>number</i>
<b>Tree</b>	<a href="#">vlan-aware-bundle-eth-tag</a>
<b>Range</b>	0 to 16777215
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## route-table

<b>Description</b>	Enable the route-table context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes route-table</a>
<b>Tree</b>	<a href="#">route-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mac-ip

<b>Description</b>	Enter the mac-ip context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes route-table mac-ip</a>
<b>Tree</b>	<a href="#">mac-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## advertise-gateway-mac *boolean*

<b>Description</b>	If set to true in an ip-vrf where bgp-evpn is enabled, a MAC/IP route containing the gateway-MAC is advertised.
--------------------	---

This gateway-MAC matches the MAC advertised along with the EVPN IFL routes type 5 for the ip-vrf network-instance. This advertisement is needed so that the EVPN IFL (Interface-Less) model in the ip-vrf can interoperate with a remote system working in EVPN IFF (Interface-ful) Unnumbered mode.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">routes route-table mac-ip advertise-gateway-mac</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-gateway-mac</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### vxlan-interface *reference*

<b>Description</b>	Identifier of vxlan-interface used in this bgp-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-evpn bgp-instance id</a> <i>reference</i> <a href="#">vxlan-interface</a> <i>reference</i>
<b>Tree</b>	<a href="#">vxlan-interface</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">vxlan-interface name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### bgp-vpn

<b>Description</b>	Enable the bgp-vpn context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn</a>
<b>Tree</b>	<a href="#">bgp-vpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### bgp-instance *id number*

<b>Description</b>	List of bgp-vpn instances configured in the network-instance. Only one instance allowed in the current release.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i>
<b>Tree</b>	<a href="#">bgp-instance</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**id number**

<b>Description</b>	The index of the bgp-vpn instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i>
<b>Range</b>	1 to 2
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**export-policy reference**

<b>Description</b>	Apply an export policy to advertised BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i> <a href="#">export-policy reference</a>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**import-policy reference**

<b>Description</b>	Apply an import policy to received BGP routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i> <a href="#">import-policy reference</a>
<b>Tree</b>	<a href="#">import-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-down-reason keyword**

<b>Description</b>	Reason for bgp-instance being down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i> <a href="#">oper-down-reason</a> <i>keyword</i>

<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• no-loopback-address-or-rd</li> <li>• no-autonomous-system-or-rt</li> <li>• network-instance-oper-down</li> <li>• bad-rd-format</li> <li>• none</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## route-distinguisher

<b>Description</b>	Route Distinguisher (RD) of the bgp-vpn instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i> <a href="#">route-distinguisher</a>
<b>Tree</b>	<a href="#">route-distinguisher</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## rd ([route-distinguisher-type-0](#) | [route-distinguisher-type-1](#) | [route-distinguisher-type-2](#) | [route-distinguisher-type-2b](#))

<b>Description</b>	Route Distinguisher (RD) in the bgp-vpn instance. When used for evpn and if not configured, the RD is auto-derived as <ip-address>:<evi> where 'ip-address' is the ipv4 address associated to the subinterface lo0.1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i> <a href="#">route-distinguisher rd</a> ( <a href="#">route-distinguisher-type-0</a>   <a href="#">route-distinguisher-type-1</a>   <a href="#">route-distinguisher-type-2</a>   <a href="#">route-distinguisher-type-2b</a> )
<b>Tree</b>	<a href="#">rd</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## route-distinguisher-origin *keyword*

<b>Description</b>	Origin of the operational Route Distinguisher (RD) of the bgp-vpn instance. 'Auto-derived-from-evi' refers to an RD that is automatically allocated with the format <ip-address>:<evi> where 'ip-address' is the ipv4 address associated to the subinterface lo0.1. 'Auto-derived-from-system-ip:0' refers to the RD for the EVPN Ethernet Segment routes that is automatically allocated with the format <ip-address>:0 where 'ip-address' is the ipv4
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address associated to the subinterface lo0.1. 'Manual' refers to an RD that is configured. 'None' indicates that the RD is neither configured nor auto-derived.

**Context** [network-instance name](#) *string* [protocols bgp-vpn bgp-instance id](#) *number*  
[route-distinguisher route-distinguisher-origin](#) *keyword*

**Tree** [route-distinguisher-origin](#)

**Options**

- auto-derived-from-evi
- auto-derived-from-system-ip:0
- manual
- none

**Configurable** False

**Platforms** Supported on all platforms

## route-target

**Description** Route Target (RT) of the bgp-vpn instance.

**Context** [network-instance name](#) *string* [protocols bgp-vpn bgp-instance id](#) *number*  
[route-target](#)

**Tree** [route-target](#)

**Configurable** True

**Platforms** Supported on all platforms

## export-route-target-origin *keyword*

**Description** Origin of the operational export Route Target (RT) of the bgp-vpn instance. 'Auto-derived-from-evi' refers to an RT that is automatically allocated with the format <asn>:<evi> where 'asn' is the autonomous-system-number configured in the network-instance default. 'Auto-derived-from-esi-bytes-1-6' refers to the ES-import RT for the EVPN Ethernet Segment routes that is derived from bytes 1 to 6 of the Ethernet Segment Identifier of the route. 'Manual' refers to an export RT that is configured. 'None' indicates that the export RT is neither configured nor auto-derived.

**Context** [network-instance name](#) *string* [protocols bgp-vpn bgp-instance id](#) *number*  
[route-target export-route-target-origin](#) *keyword*

**Tree** [export-route-target-origin](#)

**Options**

- auto-derived-from-evi
- auto-derived-from-esi-bytes-1-6
- manual
- none

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **export-rt** (*string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string*)

<b>Description</b>	Export Route Target (RT) in the bgp-vpn instance. When used for evpn and if not configured, the RT is auto-derived with the format <asn>:<evi> where 'asn' is the autonomous-system configured in the network-instance default.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id number route-target export-rt</a> ( <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i> )
<b>Tree</b>	<a href="#">export-rt</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **import-route-target-origin** *keyword*

<b>Description</b>	Origin of the operational import Route Target (RT) of the bgp-vpn instance. 'Auto-derived-from-evi' refers to an RT that is automatically allocated with the format <asn>:<evi> where 'asn' is the autonomous-system-number configured in the network-instance default. 'Auto-derived-from-esi-bytes-1-6' refers to the ES-import RT for the EVPN Ethernet Segment routes that is derived from bytes 1 to 6 of the Ethernet Segment Identifier of the route. 'Manual' refers to an import RT that is configured. 'None' indicates that the import RT is neither configured nor auto-derived.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id number route-target import-route-target-origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">import-route-target-origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto-derived-from-evi</li> <li>• auto-derived-from-esi-bytes-1-6</li> <li>• manual</li> <li>• none</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **import-rt** (*string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string*)

<b>Description</b>	Import Route Target (RT) in the bgp-vpn instance. When used for evpn and if not configured, the RT is auto-derived with the format <asn>:<evi> where 'asn' is the autonomous-system configured in the network-instance default.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp-vpn bgp-instance id</a> <i>number</i> <a href="#">route-target import-rt</a> ( <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i> )
<b>Tree</b>	<a href="#">import-rt</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## **gribi**

<b>Description</b>	Container for gRIBI configuration and state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols gribi</a>
<b>Tree</b>	<a href="#">gribi</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **admin-state** *keyword*

<b>Description</b>	Administratively enable or disable gRIBI support.  When this is set to disable all IP entries and next-hop-groups associated with the network-instance are deleted from the gRIBI server database and the recovery of this state depends on the gRIBI clients to re-signal all of the deleted entries. While in a disabled state, no entries are accepted for this network-instance. (This is the same behavior when the network-instance does not exist at all.)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols gribi admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **default-metric** *number*

<b>Description</b>	Set the route table metric to use for all gRIBI-created IPv4 and IPv6 routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols gribi default-metric</a> <i>number</i>
<b>Tree</b>	<a href="#">default-metric</a>

<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **default-preference** *number*

<b>Description</b>	Lower values indicate a higher degree of preference when deciding the route to use from different protocols.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols gribi default-preference</a> <i>number</i>
<b>Tree</b>	<a href="#">default-preference</a>
<b>Range</b>	0 to 255
<b>Default</b>	6
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **max-ecmp-hash-buckets-per-next-hop-group** *number*

<b>Description</b>	Specifies the maximum number of ECMP hash buckets per next-hop-group. An error is returned to any gRIBI client that attempts to program more than this number of next-hops in a single next-hop-group. Weighted ECMP weights are normalized based on this number of hash buckets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols gribi max-ecmp-hash-buckets-per-next-hop-group</a> <i>number</i>
<b>Tree</b>	<a href="#">max-ecmp-hash-buckets-per-next-hop-group</a>
<b>Range</b>	1 to 128
<b>Default</b>	128
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **maximum-routes** *number*

<b>Description</b>	Specifies the maximum number of gRIBI routes (sum of IPv4 and IPv6 entries). A value of 0 signifies no limit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols gribi maximum-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-routes</a>

<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## isis

<b>Description</b>	Enable the isis context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis</a>
<b>Tree</b>	<a href="#">isis</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dynamic-label-block *reference*

<b>Description</b>	Reference to a dynamic label block  Configuration of this label block is mandatory in order to enable segment routing MPLS (SR-MPLS) in IS-IS. Dynamic adjacency SID labels come from this label block.  This label block is not advertised as an SRLB in the router capabilities TLV.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis</a> <a href="#">dynamic-label-block</a> <i>reference</i>
<b>Tree</b>	<a href="#">dynamic-label-block</a>
<b>Reference</b>	<a href="#">system mpls label-ranges</a> <a href="#">dynamic name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## dynamic-label-block-status *keyword*

<b>Description</b>	Status of the label block.  The label block may show as unavailable if there is pending cleanup.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis</a> <a href="#">dynamic-label-block-status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">dynamic-label-block-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• available</li> <li>• unavailable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**instance** *name string*

<b>Description</b>	List of IS-IS protocol instances associated with this network-instance. Only a single instance is supported for now
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string</a>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**name** *string*

<b>Description</b>	The name of the IS-IS instance
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Used to administratively enable or disable the IS-IS instance
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**attached-bit**

<b>Description</b>	This container provides option for handling the ATTached bit in L1 LSPs
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string attached-bit</a>
<b>Tree</b>	<a href="#">attached-bit</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ignore** *boolean*

<b>Description</b>	When set to true, if the attached bit is set on an incoming Level 1 LSP, the local system ignores it. In this case the local system does not set a default route to the L1L2 router advertising the PDU with the attached bit set.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">attached-bit ignore</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ignore</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**suppress** *boolean*

<b>Description</b>	When set to true, if the local IS acts as a L1L2 router, then the attached bit is not advertised in locally generated L1 LSPs.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">attached-bit suppress</a> <i>boolean</i>
<b>Tree</b>	<a href="#">suppress</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authentication**

<b>Description</b>	Container for specifying authentication options that apply to the entire IS-IS instance or to an entire level.  The settings in this container only apply to PDUs without an authentication behavior specified at a more granular level.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**csnp-authentication**

<b>Description</b>	Container with options to control the authentication of CSNP PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication csnp-authentication</a>
<b>Tree</b>	<a href="#">csnp-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**check-received** *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication csnp-authentication check-received</a> <i>keyword</i>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>strict Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.</li> <li>loose Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.</li> <li>disable This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**generate** *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication csnp-authentication generate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## hello-authentication

**Description** Container with options to control the authentication of Hello PDUs

**Context** [network-instance name string protocols isis instance name string authentication hello-authentication](#)

**Tree** [hello-authentication](#)

**Configurable** True

**Platforms** Supported on all platforms

## check-received *keyword*

**Description** Specifies the type of authentication checks done for received PDUs of the specified type.

**Context** [network-instance name string protocols isis instance name string authentication hello-authentication check-received keyword](#)

**Tree** [check-received](#)

**Options**

- strict  
Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.
- loose  
Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.
- disable  
This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

**Configurable** True

**Platforms** Supported on all platforms

## generate *boolean*

**Description** When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type

**Context** [network-instance name string protocols isis instance name string authentication hello-authentication generate boolean](#)

<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## key

<b>Description</b>	Container to specify the secret key and crypto algorithm to use for the authentication of PDUs when the behavior is controlled at this level of the configuration hierarchy
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string authentication key</a>
<b>Tree</b>	<a href="#">key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## auth-password *string*

<b>Description</b>	The secret key to use for authentication of PDUs
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string authentication key auth-password string</a>
<b>Tree</b>	<a href="#">auth-password</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## crypto-algorithm *keyword*

<b>Description</b>	The cryptographic algorithm used with the keying material to secure the messages.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string authentication key crypto-algorithm keyword</a>
<b>Tree</b>	<a href="#">crypto-algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• cleartext The authentication-key is encoded in plaintext.</li> <li>• hmac-md5 The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).</li> <li>• hmac-sha-256</li> </ul>

The authentication-key is used to generate a SHA2 digest using the HMAC algorithm (RFC 2104). The SHA-256 variant of SHA2 produces an output of 32 bytes (256 bits).

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### keychain *reference*

<b>Description</b>	Specifies a keychain to use for the authentication of PDUs when the behavior is controlled at this level of the configuration hierarchy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication keychain</a> <i>reference</i>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### Isp-authentication

<b>Description</b>	Container with options to control the authentication of Link State PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication Isp-authentication</a>
<b>Tree</b>	<a href="#">Isp-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### check-received *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication Isp-authentication check-received</a> <i>keyword</i>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>strict</li> </ul> <p>Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.</p> <ul style="list-style-type: none"> <li>loose</li> </ul>

Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.

- disable

This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **generate** *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication lsp-authentication generate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **psnp-authentication**

<b>Description</b>	Container with options to control the authentication of PSNP PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication psnp-authentication</a>
<b>Tree</b>	<a href="#">psnp-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **check-received** *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication psnp-authentication check-received</a> <i>keyword</i>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• strict</li> </ul>

Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.

- loose

Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.

- disable

This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **generate** *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">authentication psnp-authentication generate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **auto-cost**

<b>Description</b>	Enter the auto-cost context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">auto-cost</a>
<b>Tree</b>	<a href="#">auto-cost</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **reference-bandwidth** *number*

<b>Description</b>	Configures the reference bandwidth that provides the basis for interface metrics based on link bandwidth.  If the reference bandwidth is defined, then the cost is calculated using the following formula: $\text{cost} = \text{reference-bandwidth} / \text{bandwidth}$
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When a large reference-bandwidth value is configured, a metric calculation may result in a value higher than the supported protocol cost value. If this occurs, IS-IS automatically reverts to the maximum configurable cost metric.

If the reference bandwidth is not configured then all interfaces have a default metric of 10.

Note: To use metrics in excess of 63, wide metrics must be deployed

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">auto-cost reference-bandwidth</a> <i>number</i>
<b>Tree</b>	<a href="#">reference-bandwidth</a>
<b>Range</b>	1 to 8000000000
<b>Units</b>	kbps
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **enable-csnp-on-p2p-links** *boolean*

<b>Description</b>	Enable/disable the transmission of periodic CSNP PDUs on point-to-point interfaces  When this is set to false, CSNP PDUs will only be sent on a P2P interface when the adjacency is initialized. This setting has no effect on broadcast interfaces.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">enable-csnp-on-p2p-links</a> <i>boolean</i>
<b>Tree</b>	<a href="#">enable-csnp-on-p2p-links</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **export-policy** *reference*

<b>Description</b>	Apply an export policy to redistribute non-ISIS routes into ISIS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**graceful-restart**

<b>Description</b>	Container for options related to IS-IS graceful restart
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**acceptable-duration** *number*

<b>Description</b>	Initial value of the Remaining Time that is advertised in the Restart TLV with Restart Acknowledgement flag set when this router starts to help another router that has just (re)entered Restart mode.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">graceful-restart acceptable-duration</a> <i>number</i>
<b>Tree</b>	<a href="#">acceptable-duration</a>
<b>Range</b>	1 to 20000
<b>Default</b>	60
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**helper-mode** *boolean*

<b>Description</b>	Enable or disable the IS-IS graceful restart helper function When this leaf is set, the local system supports retaining forwarding information during a neighbor router's restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">graceful-restart helper-mode</a> <i>boolean</i>
<b>Tree</b>	<a href="#">helper-mode</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hello-padding** *keyword*

<b>Description</b>	Specifies the use of IS-IS Hello PDU padding all interfaces This can be overridden by interface configuration.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">hello-padding</a> <i>keyword</i>
<b>Tree</b>	<a href="#">hello-padding</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>strict Strict padding option. Hello padding is done continuously, regardless of adjacency state or interface type.</li> <li>loose Loose padding option. On p2p interfaces hello PDUs are padded from the initial detection of a new neighbor until the adjacency transitions to the INIT state. On broadcast interfaces hello padding is done until there is at least one UP adjacency on the interface.</li> <li>adaptive Adaptive padding option. On p2p interfaces hello PDUs are padded until the sender declares the adjacency to be UP (based on 3-way handshake or the classic algorithm described in ISO 10589. If the p2p neighbor does not support the adjacency state TLV, then padding continues. On broadcast interfaces hello padding is done until there is at least one UP adjacency on the interface.</li> <li>disable This enum disables hello PDU padding</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hostnames**

<b>Description</b>	Enter the hostnames context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">hostnames</a>
<b>Tree</b>	<a href="#">hostnames</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**system-id** [host-system-id](#) *string*

<b>Description</b>	List of system IDs that have discovered hostnames.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">hostnames system-id host-system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">system-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**host-system-id** *string*

<b>Description</b>	The system ID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">hostnames system-id host-system-id</a> <i>string</i>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**hostname** *string*

<b>Description</b>	The hostname of the system.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">hostnames system-id host-system-id</a> <i>string</i> <a href="#">hostname</a> <i>string</i>
<b>Tree</b>	<a href="#">hostname</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**inter-level-propagation-policies**

<b>Description</b>	Container with options to control the propagation of prefixes between levels
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">inter-level-propagation-policies</a>
<b>Tree</b>	<a href="#">inter-level-propagation-policies</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**level1-to-level2**

<b>Description</b>	Container with options to control the propagation of prefixes from level 1 to level 2.
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By default all L1 prefixes are propagated without summarization into L2.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">inter-level-propagation-policies level1-to-level2</a>
<b>Tree</b>	<a href="#">level1-to-level2</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### summary-address [ip-prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	List of summarization prefixes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">inter-level-propagation-policies level1-to-level2</a> <a href="#">summary-address ip-prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> )
<b>Tree</b>	<a href="#">summary-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### [ip-prefix](#) ([ipv4-prefix](#) | [ipv6-prefix](#))

<b>Description</b>	An IP prefix advertised into L2 that summarizes one or more L1 prefixes and causes them to be suppressed
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">inter-level-propagation-policies level1-to-level2</a> <a href="#">summary-address ip-prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### [route-tag](#) *number*

<b>Description</b>	Specifies route tag value to assign to the summary route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">inter-level-propagation-policies level1-to-level2</a> <a href="#">summary-address ip-prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">route-tag</a> <i>number</i>
<b>Tree</b>	<a href="#">route-tag</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface** *interface-name string*

<b>Description</b>	List of IS-IS interfaces
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface-name** *string*

<b>Description</b>	Name of the IS-IS interface
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**adjacency** *neighbor-system-id string adjacency-level string*

<b>Description</b>	List of adjacencies formed through this interface.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string adjacency neighbor-system-id string adjacency-level string</a>
<b>Tree</b>	<a href="#">adjacency</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-system-id** *string*

<b>Description</b>	The neighbor router's system ID.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string adjacency neighbor-system-id string adjacency-level string</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**adjacency-level** *string*

<b>Description</b>	The level of the adjacency that is formed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**area-address** *string*

<b>Description</b>	Area address of the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">area-address</a> <i>string</i>
<b>Tree</b>	<a href="#">area-address</a>
<b>String Length</b>	2 to 38
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**designated-is-system-id** *string*

<b>Description</b>	System id of the designated IS router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">designated-is-system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">designated-is-system-id</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**down-reason** *keyword*

<b>Description</b>	The reason why the adjacency is down.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>3-way-handshake-failed</li> </ul>

- address-mismatch
- hold-timer-expired
- area-mismatch
- bad-hello
- bfd-session-down
- interface-down
- interface-level-disabled
- level-changed
- level-mismatch
- mt-topology-changed
- mt-topology-mismatch
- remote-system-id-changed
- isis-protocol-disabled
- unknown

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-up-down-transition *string*

<b>Description</b>	The last time when the adjacency entered the up or down state.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">interface interface-name string</a> <a href="#">adjacency neighbor-system-id string</a> <a href="#">adjacency-level string</a> <a href="#">last-up-down-transition string</a>
<b>Tree</b>	<a href="#">last-up-down-transition</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### local-extended-circuit-id *number*

<b>Description</b>	Local extended circuit ID.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">interface interface-name string</a> <a href="#">adjacency neighbor-system-id string</a> <a href="#">adjacency-level string</a> <a href="#">local-extended-circuit-id number</a>
<b>Tree</b>	<a href="#">local-extended-circuit-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-circuit-type** *keyword*

<b>Description</b>	The circuit type signalled by the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-circuit-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">neighbor-circuit-type</a>
<b>Default</b>	L1L2
<b>Options</b>	<ul style="list-style-type: none"> <li>• L1 This enum describes ISIS level 1</li> <li>• L2 This enum describes ISIS level 2</li> <li>• L1L2 This enum describes ISIS level 1-2</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-extended-circuit-id** *number*

<b>Description</b>	Extended circuit ID assigned by the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-extended-circuit-id</a> <i>number</i>
<b>Tree</b>	<a href="#">neighbor-extended-circuit-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-hostname** *string*

<b>Description</b>	The hostname of the neighbor, as learned by TLV 137.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-hostname</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-hostname</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**neighbor-ipv4** *string*

<b>Description</b>	The IPv4 address of the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-ipv4</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-ipv4</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-ipv6** *string*

<b>Description</b>	The IPv6 address of the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-ipv6</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-ipv6</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-last-restart** (*keyword* | *date-and-time-delta*)

<b>Description</b>	The last time the neighbor restarted under protection of graceful restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-last-restart</a> ( <i>keyword</i>   <i>date-and-time-delta</i> )
<b>Tree</b>	<a href="#">neighbor-last-restart</a>
<b>String Length</b>	20 to 32
<b>Options</b>	<ul style="list-style-type: none"> <li>• never</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-priority** *number*

<b>Description</b>	The priority signalled by the neighbor to become the DIS on a LAN
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <a href="#">neighbor-priority</a> <i>number</i>
<b>Tree</b>	<a href="#">neighbor-priority</a>

<b>Range</b>	0 to 127
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **neighbor-restart-capable** *boolean*

<b>Description</b>	Reads true when the neighbor has signalled that it is restart capable.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>neighbor-restart-capable</b> <i>boolean</i>
<b>Tree</b>	<a href="#">neighbor-restart-capable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **neighbor-restart-status** *keyword*

<b>Description</b>	The status of the neighbor with respect to graceful restart
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>neighbor-restart-status</b> <i>keyword</i>
<b>Tree</b>	<a href="#">neighbor-restart-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• not-helping</li> <li>• helping</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **neighbor-restarts** *number*

<b>Description</b>	The number of times the neighbor has restarted under protection of graceful restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>neighbor-restarts</b> <i>number</i>
<b>Tree</b>	<a href="#">neighbor-restarts</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-snpa** *string*

<b>Description</b>	The SNPA of the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>neighbor-snpa</b> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-snpa</a>
<b>String Length</b>	0 to 20
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**nlpid** *keyword*

<b>Description</b>	List of protocols supported by the adjacency.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>nlpid</b> <i>keyword</i>
<b>Tree</b>	<a href="#">nlpid</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• IPv4 NLPID 0xCC corresponding to IPv4</li> <li>• IPv6 NLPID 0x8E corresponding to IPv6</li> <li>• CLNS NLPID 0x81 corresponding to CLNS</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remaining-holdtime** *number*

<b>Description</b>	The time remaining until the hold timer will expire.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>remaining-holdtime</b> <i>number</i>
<b>Tree</b>	<a href="#">remaining-holdtime</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**state** *keyword*

<b>Description</b>	The current state of the adjacency.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up This state describes that adjacency is established.</li> <li>• down This state describes that adjacency is NOT established.</li> <li>• init This state describes that adjacency is establishing.</li> <li>• failed This state describes that adjacency is failed.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-down-transitions** *number*

<b>Description</b>	The total number of transitions from Up state to a lower state, since the last clear.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacency neighbor-system-id</a> <i>string</i> <a href="#">adjacency-level</a> <i>string</i> <b>up-down-transitions</b> <i>number</i>
<b>Tree</b>	<a href="#">up-down-transitions</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Used to administratively enable or disable the IS-IS protocol on a routed subinterface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <b>admin-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>

<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## authentication

<b>Description</b>	Container for specifying authentication options that apply to the IS-IS instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hello-authentication

<b>Description</b>	Container with options to control the authentication of Hello PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication hello-authentication</a>
<b>Tree</b>	<a href="#">hello-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## check-received *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication hello-authentication check-received</a> <i>keyword</i>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• strict           <p>Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.</p> </li> <li>• loose</li> </ul>

Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.

- disable

This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **generate** *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication hello-authentication generate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **key**

<b>Description</b>	Container to specify the secret key and crypto algorithm to use for the authentication of Hello PDUs on this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication key</a>
<b>Tree</b>	<a href="#">key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **auth-password** *string*

<b>Description</b>	The secret key to use for authentication of Hello PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication key auth-password</a> <i>string</i>
<b>Tree</b>	<a href="#">auth-password</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**crypto-algorithm** *keyword*

<b>Description</b>	The cryptographic algorithm used with the keying material to secure the messages.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication key crypto-algorithm</a> <i>keyword</i>
<b>Tree</b>	<a href="#">crypto-algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>cleartext</b> The authentication-key is encoded in plaintext.</li> <li>• <b>hmac-md5</b> The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).</li> <li>• <b>hmac-sha-256</b> The authentication-key is used to generate a SHA2 digest using the HMAC algorithm (RFC 2104).The SHA-256 variant of SHA2 produces an output of 32 bytes (256 bits).</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain** *reference*

<b>Description</b>	Specifies a keychain to use for the authentication of Hello PDUs on this interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">authentication keychain</a> <i>reference</i>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**circuit-id** *number*

<b>Description</b>	The circuit ID assigned by this IS-IS router to its interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">circuit-id</a> <i>number</i>
<b>Tree</b>	<a href="#">circuit-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**circuit-type** *keyword*

<b>Description</b>	Specifies the circuit type as either point-to-point or broadcast
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <b>circuit-type</b> <i>keyword</i>
<b>Tree</b>	<a href="#">circuit-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>point-to-point This enum describes a point-to-point interface</li> <li>broadcast This enum describes a broadcast interface</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hello-padding** *keyword*

<b>Description</b>	Specifies the use of IS-IS Hello PDU padding on the interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <b>hello-padding</b> <i>keyword</i>
<b>Tree</b>	<a href="#">hello-padding</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>strict Strict padding option. Hello padding is done continuously, regardless of adjacency state or interface type.</li> <li>loose Loose padding option. On p2p interfaces hello PDUs are padded from the initial detection of a new neighbor until the adjacency transitions to the INIT state. On broadcast interfaces hello padding is done until there is at least one UP adjacency on the interface.</li> <li>adaptive Adaptive padding option. On p2p interfaces hello PDUs are padded until the sender declares the adjacency to be UP (based on 3-way handshake or the classic algorithm described in ISO 10589. If the p2p neighbor does not support the adjacency state TLV, then padding continues. On broadcast interfaces hello padding is done until there is at least one UP adjacency on the interface.</li> <li>disable This enum disables hello PDU padding</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**ipv4-unicast**

<b>Description</b>	Enter the ipv4-unicast context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	When set to true, the interface and level supports IPv4 unicast routing
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ipv4-unicast admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**enable-bfd** *boolean*

<b>Description</b>	Enable BFD for IPv4
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ipv4-unicast enable-bfd</a> <i>boolean</i>
<b>Tree</b>	<a href="#">enable-bfd</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**include-bfd-tlv** *boolean*

<b>Description</b>	Specifies whether a BFD-enabled TLV is included for IPv4 on this IS-IS interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ipv4-unicast include-bfd-tlv</a> <i>boolean</i>

<b>Tree</b>	<a href="#">include-bfd-tlv</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv6-unicast

<b>Description</b>	Enter the ipv6-unicast context
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string ipv6-unicast</a>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## admin-state *keyword*

<b>Description</b>	When set to true, the interface and level supports IPv6 unicast routing
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string ipv6-unicast admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## enable-bfd *boolean*

<b>Description</b>	Enable BFD for IPv6
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string ipv6-unicast enable-bfd boolean</a>
<b>Tree</b>	<a href="#">enable-bfd</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**include-bfd-tlv** *boolean*

<b>Description</b>	Specifies whether a BFD-enabled TLV is included for IPv6 on this IS-IS interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ipv6-unicast include-bfd-tlv</a> <i>boolean</i>
<b>Tree</b>	<a href="#">include-bfd-tlv</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ldp-synchronization**

<b>Description</b>	Container with configuration options and state that pertains to the operation of LDP-IGP synchronization on this interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization</a>
<b>Tree</b>	<a href="#">ldp-synchronization</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**disable**

<b>Description</b>	Disable LDP-IGP synchronization procedures on this interface, even if synchronization is enabled globally
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization disable</a>
<b>Tree</b>	<a href="#">disable</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**duration** *number*

<b>Description</b>	The length of time that the IGP interface has been in sync or out of sync
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization duration</a> <i>number</i>
<b>Tree</b>	<a href="#">duration</a>
<b>Units</b>	seconds

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### end-of-lib *boolean*

<b>Description</b>	<p>When set to true, the IGP restores the normal metric for the IGP adjacency when learning from LDP that all label-FEC mappings have been received from the LDP peer, even if there is remaining time on the hold-down-timer.</p> <p>When set to false, the IGP always waits for the full duration of the hold-down-timer to restore the normal metric for the IGP adjacency.</p> <p>This overrides the global/instance level setting.</p>
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string ldp-synchronization end-of-lib boolean</a>
<b>Tree</b>	<a href="#">end-of-lib</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### hold-down-timer *number*

<b>Description</b>	<p>The maximum amount of time that the IGP advertises a maximum metric for an interface, measured from the time that the LDP adjacency is re-established after going down.</p> <p>This overrides the global/instance level setting.</p>
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string ldp-synchronization hold-down-timer number</a>
<b>Tree</b>	<a href="#">hold-down-timer</a>
<b>Range</b>	1 to 1800
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sync-state *keyword*

<b>Description</b>	The current state of the interface with respect to LDP-IGP sync
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string ldp-synchronization sync-state keyword</a>
<b>Tree</b>	<a href="#">sync-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>wait-for-LDP-adjacency</li> </ul>

The IGP is waiting for the LDP adjacency to come up. The interface is being advertised with max-metric.

- hold-down-timer-active

The LDP adjacency has come up and the IGP has started the hold-down-timer, waiting for either end-of-lib or hold-down-timer expiry. The interface is being advertised with max-metric.

- end-of-lib-received

The IGP received end-of-lib and has switched to normal operation. The interface is being advertised with a normal metric

- hold-down-timer-expired

The IGP did not receive end-of-lib (or was configured to ignore it) but hold-down-timer has expired and normal metric is restored.

- manual-exit

A tools command was performed to exit ldp-sync. Normal operation is resumed, max-metric is removed.

- disabled

ldp-sync is not applicable on this interface

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### level *level-number number*

<b>Description</b>	List of IS-IS levels supported by this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i>
<b>Tree</b>	<a href="#">level</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	2

### level-number *number*

<b>Description</b>	Specifies the IS-IS protocol level to which these attributes are applied.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i>
<b>Range</b>	1 to 2
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## authentication

<b>Description</b>	Container for specifying authentication options that apply to the IS-IS instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hello-authentication

<b>Description</b>	Container with options to control the authentication of Hello PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication hello-authentication</a>
<b>Tree</b>	<a href="#">hello-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## check-received *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication hello-authentication check-received</a> <i>keyword</i>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>strict Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.</li> <li>loose Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.</li> <li>disable</li> </ul>

This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **generate** *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication hello-authentication generate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **key**

<b>Description</b>	Container to specify the secret key and crypto algorithm to use for the authentication of Hello PDUs on this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication key</a>
<b>Tree</b>	<a href="#">key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **auth-password** *string*

<b>Description</b>	The secret key to use for authentication of Hello PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication key auth-password</a> <i>string</i>
<b>Tree</b>	<a href="#">auth-password</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**crypto-algorithm** *keyword*

<b>Description</b>	The cryptographic algorithm used with the keying material to secure the messages.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication key crypto-algorithm</a> <i>keyword</i>
<b>Tree</b>	<a href="#">crypto-algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>cleartext The authentication-key is encoded in plaintext.</li> <li>hmac-md5 The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).</li> <li>hmac-sha-256 The authentication-key is used to generate a SHA2 digest using the HMAC algorithm (RFC 2104).The SHA-256 variant of SHA2 produces an output of 32 bytes (256 bits).</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain** *reference*

<b>Description</b>	Specifies a keychain to use for the authentication of Hello PDUs on this interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication keychain reference</a>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**disable** *boolean*

<b>Description</b>	Disable the Level for the interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">disable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">disable</a>
<b>Default</b>	false



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ipv6-unicast-metric** *number*

<b>Description</b>	Specifies the interface metric associated with the IPv6-unicast multi-topology. The default is based on reference-bandwidth, or else if this is not configured the default is 10.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">ipv6-unicast-metric</a> <i>number</i>
<b>Tree</b>	<a href="#">ipv6-unicast-metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **metric** *number*

<b>Description</b>	Specifies the interface metric associated with the native routing topology. The default is based on reference-bandwidth, or else if this is not configured the default is 10.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **priority** *number*

<b>Description</b>	ISIS neighbor priority for becoming Designated IS (LAN hello PDU only).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">priority</a> <i>number</i>
<b>Tree</b>	<a href="#">priority</a>
<b>Range</b>	0 to 127
<b>Default</b>	64
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Interface per level statistics
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## pdu [pdu-name](#) *keyword*

<b>Description</b>	List of PDUs processed by the IS-IS instance since the IS-IS manager restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics pdu pdu-name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">pdu</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## pdu-name *keyword*

<b>Description</b>	The PDU type that was processed
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics pdu pdu-name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• LSP Link State PDU</li> <li>• IIH IS-to-IS Hello PDU</li> <li>• CSNP Complete Sequence Number PDU</li> <li>• PSNP Partial Sequence Number PDU</li> <li>• Unknown Unknown PDU type</li> </ul>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **dropped** *number*

**Description** The number of PDUs that were received and dropped

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [level level-number](#) *number* [statistics pdu pdu-name](#) *keyword* [dropped](#) *number*

**Tree** [dropped](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **processed** *number*

**Description** The number of PDUs that were received and processed

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [level level-number](#) *number* [statistics pdu pdu-name](#) *keyword* [processed](#) *number*

**Tree** [processed](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **received** *number*

**Description** The number of PDUs that were received

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [level level-number](#) *number* [statistics pdu pdu-name](#) *keyword* [received](#) *number*

**Tree** [received](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **sent** *number*

**Description** The number of PDUs that were transmitted

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics pdu-name keyword sent</a> <i>number</i>
<b>Tree</b>	<a href="#">sent</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## timers

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hello-interval *number*

<b>Description</b>	ISIS hello-interval value. The default is 3 seconds on Designated IS interfaces and 9 seconds for non-DIS and p2p interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">timers hello-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-interval</a>
<b>Range</b>	1 to 20000
<b>Default</b>	9
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hello-multiplier *number*

<b>Description</b>	<p>ISIS hello-multiplier value.</p> <p>The neighbor hold time is (hello multiplier x hello interval) on non-designated intermediate system broadcast interfaces and point-to-point interfaces and (hello multiplier x hello interval / 3) on designated intermediate system broadcast interfaces.</p> <p>The hold time is the time in which the neighbor expects to receive the next Hello PDU. If the neighbor receives a Hello within this time, the hold time is</p>
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reset. If the neighbor does not receive a Hello within the hold time, it brings the adjacency down.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">timers hello-multiplier</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-multiplier</a>
<b>Range</b>	2 to 100
<b>Default</b>	3
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## weighted-ecmp

<b>Description</b>	Enter the weighted-ecmp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">weighted-ecmp</a>
<b>Tree</b>	<a href="#">weighted-ecmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## load-balancing-weight (*number* | *keyword*)

<b>Description</b>	The load-balancing weight of the interface, which applies when weighted ECMP is enabled and the interface is part of a multipath set.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">weighted-ecmp</a> <a href="#">load-balancing-weight</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">load-balancing-weight</a>
<b>Range</b>	1 to 4294967295
<b>Default</b>	auto
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto Load-balancing weight is based on the bandwidth of the parent interface (port or LAG)</li> <li>• none The interface should not participate in weighted ECMP</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-state keyword**

<b>Description</b>	The operational state of the IS-IS interface. This simply tracks the operational state of the subinterface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <b>oper-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting</li> </ul>

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **passive** *boolean*

<b>Description</b>	When set to true the interface is configured as a passive interface and does not send IIH PDUs or try to form an adjacency with other routers.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string passive boolean</a>
<b>Tree</b>	<a href="#">passive</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **segment-routing**

<b>Description</b>	Container with interface-specific segment routing options
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string segment-routing</a>
<b>Tree</b>	<a href="#">segment-routing</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **mpls**

<b>Description</b>	SR-MPLS interface options
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string segment-routing mpls</a>
<b>Tree</b>	<a href="#">mpls</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv4-adjacency-sid**

<b>Description</b>	The IPv4 adjacency SID associated with the interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv4-adjacency-sid</a>
<b>Tree</b>	<a href="#">ipv4-adjacency-sid</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**assignment** *keyword*

<b>Description</b>	<p>The method that should be used to allocate an adjacency SID or multiple adjacency SIDs for this interface.</p> <p>This overrides the top level configuration to assign dynamic adjacency SIDs to all interfaces.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv4-adjacency-sid assignment</a> <i>keyword</i>
<b>Tree</b>	<a href="#">assignment</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>static           <p>The user will statically configure an adjacency SID for the interface. This option is not available if the interface type is not point-to-point.</p> </li> <li>dynamic           <p>IS-IS should dynamically allocate one or more dynamic adjacency SIDs for this interface.</p> </li> <li>none           <p>No adjacency SIDs should be allocated for this interface.</p> </li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**programmed-sids** [label-value](#) *number*

<b>Description</b>	The list of IPv4 adjacency SIDs that have been programmed in association with this interface
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv4-adjacency-sid programmed-sids label-value</a> <i>number</i>
<b>Tree</b>	<a href="#">programmed-sids</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**label-value** *number*

<b>Description</b>	The adjacency SID represented by the MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv4-adjacency-sid programmed-sids label-value</a> <i>number</i>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**adjacency-level** *keyword*

<b>Description</b>	The level of the adjacency that is formed. Only populated for dynamic adjacency SIDs on broadcast interfaces.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv4-adjacency-sid programmed-sids label-value</a> <i>number</i> <a href="#">adjacency-level</a> <i>keyword</i>
<b>Tree</b>	<a href="#">adjacency-level</a>
<b>Default</b>	L1L2
<b>Options</b>	<ul style="list-style-type: none"> <li>• L1 This enum describes ISIS level 1</li> <li>• L2 This enum describes ISIS level 2</li> <li>• L1L2 This enum describes ISIS level 1-2</li> </ul>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### neighbor-system-id *string*

**Description** The neighbor router's system ID.

**Context** [network-instance name \*string\*](#) [protocols isis instance name \*string\*](#) [interface interface-name \*string\*](#) [segment-routing mpls ipv4-adjacency-sid programmed-sids label-value \*number\*](#) [neighbor-system-id \*string\*](#)

**Tree** [neighbor-system-id](#)

**String Length** 14

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### static *number*

**Description** Configure a static adjacency SID represented by an MPLS label value.

**Context** [network-instance name \*string\*](#) [protocols isis instance name \*string\*](#) [interface interface-name \*string\*](#) [segment-routing mpls ipv4-adjacency-sid static \*number\*](#)

**Tree** [static](#)

**Range** 16 to 1048575

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### ipv4-node-sid

**Description** Configuration of IPv4 node SID.  
The (primary) IPv4 address of this interface is advertised as a prefix SID with the node-SID flag set. The associated label is derived from the label index configured in this container.

**Context** [network-instance name \*string\*](#) [protocols isis instance name \*string\*](#) [interface interface-name \*string\*](#) [segment-routing mpls ipv4-node-sid](#)

**Tree** [ipv4-node-sid](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **index number**

**Description** Label index to add to SRGB base.  
This causes the V-flag and L-flag in the prefix SID subTLV to be set to zero.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [segment-routing mpls ipv4-node-sid index](#) *number*

**Tree** [index](#)

**Range** 0 to 1048575

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **ipv6-adjacency-sid**

**Description** The IPv6 adjacency SID associated with the interface

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [segment-routing mpls ipv6-adjacency-sid](#)

**Tree** [ipv6-adjacency-sid](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## **assignment keyword**

**Description** The method that should be used to allocate an adjacency SID or multiple adjacency SIDs for this interface.  
This overrides the top level configuration to assign dynamic adjacency SIDs to all interfaces.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [segment-routing mpls ipv6-adjacency-sid assignment](#) *keyword*

**Tree** [assignment](#)

**Options**

- static  
The user will statically configure an adjacency SID for the interface. This option is not available if the interface type is not point-to-point.
- dynamic

IS-IS should dynamically allocate one or more dynamic adjacency SIDs for this interface.

- none

No adjacency SIDs should be allocated for this interface.

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **programmed-sids** *label-value number*

<b>Description</b>	The list of IPv4 adjacency SIDs that have been programmed in association with this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv6-adjacency-sid programmed-sids label-value</a> <i>number</i>
<b>Tree</b>	<a href="#">programmed-sids</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **label-value** *number*

<b>Description</b>	The adjacency SID represented by the MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv6-adjacency-sid programmed-sids label-value</a> <i>number</i>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **adjacency-level** *keyword*

<b>Description</b>	The level of the adjacency that is formed. Only populated for dynamic adjacency SIDs on broadcast interfaces.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv6-adjacency-sid programmed-sids label-value</a> <i>number</i> <a href="#">adjacency-level</a> <i>keyword</i>
<b>Tree</b>	<a href="#">adjacency-level</a>
<b>Default</b>	L1L2
<b>Options</b>	<ul style="list-style-type: none"> <li>• L1 This enum describes ISIS level 1</li> <li>• L2 This enum describes ISIS level 2</li> <li>• L1L2 This enum describes ISIS level 1-2</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### neighbor-system-id *string*

<b>Description</b>	The neighbor router's system ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv6-adjacency-sid programmed-sids label-value</a> <i>number</i> <a href="#">neighbor-system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-system-id</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### static *number*

<b>Description</b>	Configure a static adjacency SID represented by an MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">segment-routing mpls ipv6-adjacency-sid static</a> <i>number</i>
<b>Tree</b>	<a href="#">static</a>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## ipv6-node-sid

**Description** Configuration of IPv6 node SID.  
The (primary) IPv6 address of this interface is advertised as a prefix SID with the node-SID flag set. The associated label is derived from the label index configured in this container.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [segment-routing mpls ipv6-node-sid](#)

**Tree** [ipv6-node-sid](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## index number

**Description** Label index to add to SRGB base.  
This causes the V-flag and L-flag in the prefix SID subTLV to be set to zero.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [segment-routing mpls ipv6-node-sid index number](#)

**Tree** [index](#)

**Range** 0 to 1048575

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## statistics

**Description** Statistics associated with this IS-IS interface.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [interface interface-name](#) *string* [statistics](#)

**Tree** [statistics](#)

**Configurable** False

**Platforms** Supported on all platforms

**adjacency-changes** *number*

<b>Description</b>	Number of times an adjacency state change has occurred on this circuit(summed across all adjacencies).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics adjacency-changes</a> <i>number</i>
<b>Tree</b>	<a href="#">adjacency-changes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**adjacency-number** *number*

<b>Description</b>	Number of adjacencies on this circuit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics adjacency-number</a> <i>number</i>
<b>Tree</b>	<a href="#">adjacency-number</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**area-address-mismatches** *number*

<b>Description</b>	Number of times an IS-IS L1 hello was received on this circuit with a area address field different from that for this system
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics area-address-mismatches</a> <i>number</i>
<b>Tree</b>	<a href="#">area-address-mismatches</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**authentication-failures** *number*

<b>Description</b>	Number of times an IS-IS control PDU with the correct auth type has failed to pass authentication validation on the interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics authentication-failures</a> <i>number</i>

<b>Tree</b>	<a href="#">authentication-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **authentication-type-failures** *number*

<b>Description</b>	Number of times an IS-IS control PDU with an auth type field different from that for this system has been received on the interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics authentication-type-failures</a> <i>number</i>
<b>Tree</b>	<a href="#">authentication-type-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **designated-is-changes** *number*

<b>Description</b>	Number of times the Designated IS has changed on this circuit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics designated-is-changes</a> <i>number</i>
<b>Tree</b>	<a href="#">designated-is-changes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **max-area-address-mismatches** *number*

<b>Description</b>	Number of times an IS-IS control PDU with a max area address field different from that for this system has been received on the interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics max-area-address-mismatches</a> <i>number</i>
<b>Tree</b>	<a href="#">max-area-address-mismatches</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**rejected-adjacencies** *number*

<b>Description</b>	Number of times an adjacency has been rejected on this circuit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics rejected-adjacencies</a> <i>number</i>
<b>Tree</b>	<a href="#">rejected-adjacencies</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**system-id-length-mismatches** *number*

<b>Description</b>	Number of times an IS-IS control PDU with a system ID field length different from that for this system has been received on the interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">statistics system-id-length-mismatches</a> <i>number</i>
<b>Tree</b>	<a href="#">system-id-length-mismatches</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**timers**

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**csnp-interval** *number*

<b>Description</b>	The interval, specified in seconds, at which periodic CSNP packets should be transmitted by the local IS on this interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">timers csnp-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">csnp-interval</a>

<b>Range</b>	1 to 65535
<b>Default</b>	10
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **lsp-pacing-interval** *number*

<b>Description</b>	<p>Controls the interval between (bursts of) LSPs sent from the interface. The interval applies to all LSPs: LSPs generated by the router, and LSPs received from other routers and re-flooded.</p> <p>The burst interval is 100 ms if the lsp-pacing-interval &lt; 100 ms and otherwise it is 1 second. For example, if the lsp-pacing-interval is 2 ms, at most 50 LSPs are sent every 100 ms. On the other hand, if the lsp-pacing-interval is 100 ms, at most 10 LSPs are sent every 1 second.</p> <p>If a value of 0 is configured, no LSPs are sent from the interface.</p> <p>The default pacing interval of 100 milliseconds means that a maximum of 10 LSPs are sent in a burst every second.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">timers lsp-pacing-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">lsp-pacing-interval</a>
<b>Range</b>	0 to 100000
<b>Default</b>	100
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace-options**

<b>Description</b>	Interface level debug trace options for IS-IS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**trace** *keyword*

<b>Description</b>	List of tracing options
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">trace-options trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">adjacencies</a></li> <li>• <a href="#">packets-all</a></li> <li>• <a href="#">packets-p2p-hello</a></li> <li>• <a href="#">packets-l1-hello</a></li> <li>• <a href="#">packets-l2-hello</a></li> <li>• <a href="#">packets-l1-psnp</a></li> <li>• <a href="#">packets-l2-psnp</a></li> <li>• <a href="#">packets-l1-csnp</a></li> <li>• <a href="#">packets-l2-csnp</a></li> <li>• <a href="#">packets-l1-lsp</a></li> <li>• <a href="#">packets-l2-lsp</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-unicast**

<b>Description</b>	Enables/disables IPv4 routing in this ISIS instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	When set to true, the IS-IS instance supports IPv4 unicast routing
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">ipv4-unicast admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">enable</a></li> </ul>

	<ul style="list-style-type: none"> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv6-unicast

<b>Description</b>	Enables/disables IPv6 routing in this ISIS instance.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string ipv6-unicast</a>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## admin-state *keyword*

<b>Description</b>	When set to true, the IS-IS instance supports IPv6 unicast routing
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string ipv6-unicast admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ldp-synchronization

<b>Description</b>	Enable LDP-IGP synchronization procedures on all P2P interfaces and all LAN interfaces with a single adjacency, except on interfaces where the functionality is explicitly disabled.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string ldp-synchronization</a>
<b>Tree</b>	<a href="#">ldp-synchronization</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**end-of-lib** *boolean*

<b>Description</b>	When set to true, the IGP restores the normal metric for the IGP adjacency when learning from LDP that all label-FEC mappings have been received from the LDP peer, even if there is remaining time on the hold-down-timer.  When set to false, the IGP always waits for the full duration of the hold-down-timer to restore the normal metric for the IGP adjacency.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">ldp-synchronization end-of-lib</a> <i>boolean</i>
<b>Tree</b>	<a href="#">end-of-lib</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hold-down-timer** *number*

<b>Description</b>	The maximum amount of time that the IGP advertises a maximum metric for an interface, measured from the time that the LDP adjacency is re-established after going down.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">ldp-synchronization hold-down-timer</a> <i>number</i>
<b>Tree</b>	<a href="#">hold-down-timer</a>
<b>Range</b>	1 to 1800
<b>Default</b>	60
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**level** [level-number](#) *number*

<b>Description</b>	List of IS-IS levels supported by this IS (router)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i>
<b>Tree</b>	<a href="#">level</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	2

**level-number** *number*

<b>Description</b>	Specifies the IS-IS protocol level to which these attributes are applied.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i>
<b>Range</b>	1 to 2
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authentication**

<b>Description</b>	Container for specifying authentication options that apply to the entire IS-IS instance or to an entire level.  The settings in this container only apply to PDUs without an authentication behavior specified at a more granular level.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**csnp-authentication**

<b>Description</b>	Container with options to control the authentication of CSNP PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication csnp-authentication</a>
<b>Tree</b>	<a href="#">csnp-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**check-received** *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication csnp-authentication check-received</a> <i>keyword</i>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>strict</li> </ul>

Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.

- loose

Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.

- disable

This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### generate *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name <i>string</i> protocols isis instance name <i>string</i> level level-number <i>number</i> authentication csnp-authentication generate <i>boolean</i></a>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### hello-authentication

<b>Description</b>	Container with options to control the authentication of Hello PDUs
<b>Context</b>	<a href="#">network-instance name <i>string</i> protocols isis instance name <i>string</i> level level-number <i>number</i> authentication hello-authentication</a>
<b>Tree</b>	<a href="#">hello-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### check-received *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name <i>string</i> protocols isis instance name <i>string</i> level level-number <i>number</i> authentication hello-authentication check-received <i>keyword</i></a>

<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>strict</b> Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.</li> <li>• <b>loose</b> Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.</li> <li>• <b>disable</b> This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## generate *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level level-number number authentication hello-authentication generate boolean</a>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## key

<b>Description</b>	Container to specify the secret key and crypto algorithm to use for the authentication of PDUs when the behavior is controlled at this level of the configuration hierarchy
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level level-number number authentication key</a>
<b>Tree</b>	<a href="#">key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**auth-password** *string*

<b>Description</b>	The secret key to use for authentication of PDUs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication key auth-password</a> <i>string</i>
<b>Tree</b>	<a href="#">auth-password</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**crypto-algorithm** *keyword*

<b>Description</b>	The cryptographic algorithm used with the keying material to secure the messages.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication key crypto-algorithm</a> <i>keyword</i>
<b>Tree</b>	<a href="#">crypto-algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>cleartext The authentication-key is encoded in plaintext.</li> <li>hmac-md5 The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).</li> <li>hmac-sha-256 The authentication-key is used to generate a SHA2 digest using the HMAC algorithm (RFC 2104).The SHA-256 variant of SHA2 produces an output of 32 bytes (256 bits).</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain** *reference*

<b>Description</b>	Specifies a keychain to use for the authentication of PDUs when the behavior is controlled at this level of the configuration hierarchy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">authentication keychain</a> <i>reference</i>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## Isp-authentication

<b>Description</b>	Container with options to control the authentication of Link State PDUs
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level level-number number authentication Isp-authentication</a>
<b>Tree</b>	<a href="#">Isp-authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## check-received *keyword*

<b>Description</b>	Specifies the type of authentication checks done for received PDUs of the specified type.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level level-number number authentication Isp-authentication check-received keyword</a>
<b>Tree</b>	<a href="#">check-received</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>strict Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.</li> <li>loose Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.</li> <li>disable This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## generate *boolean*

<b>Description</b>	When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level level-number number authentication Isp-authentication generate boolean</a>
<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## psnp-authentication

**Description** Container with options to control the authentication of PSNP PDUs

**Context** [network-instance name string protocols isis instance name string level level-number number authentication psnp-authentication](#)

**Tree** [psnp-authentication](#)

**Configurable** True

**Platforms** Supported on all platforms

## check-received *keyword*

**Description** Specifies the type of authentication checks done for received PDUs of the specified type.

**Context** [network-instance name string protocols isis instance name string level level-number number authentication psnp-authentication check-received keyword](#)

**Tree** [check-received](#)

**Options**

- strict  
Strict authentication option. Reject all packets that do not have an authentication TLV or that do have an authentication TLV that cannot be validated.
- loose  
Loose authentication option. Accept packets received without an authentication TLV; validate packets received with an authentication TLV and reject those packets that cannot be validated.
- disable  
This enum disables authentication checks. Do not check authentication TLV (if any) of received PDUs; authentication TLV may still be added self-generated PDUs

**Configurable** True

**Platforms** Supported on all platforms

## generate *boolean*

**Description** When set to true, IS-IS is instructed to add an authentication TLV to every transmitted PDU of the specified type

**Context** [network-instance name string protocols isis instance name string level level-number number authentication psnp-authentication generate boolean](#)

<b>Tree</b>	<a href="#">generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **metric-style** *keyword*

<b>Description</b>	Specifies the metric style to be wide or narrow for the level
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">metric-style</a> <i>keyword</i>
<b>Tree</b>	<a href="#">metric-style</a>
<b>Default</b>	wide
<b>Options</b>	<ul style="list-style-type: none"> <li>• narrow This enum describes narrow metric style</li> <li>• wide This enum describes wide metric style</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **route-preference**

<b>Description</b>	Specify the route preference (admin distance) for IP routes associated with the level
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">route-preference</a>
<b>Tree</b>	<a href="#">route-preference</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **external** *number*

<b>Description</b>	Specify the route preference of external routes carried in this level. By default the route preference of external L1 routes is 160. By default the route preference of external L2 routes is 165.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">route-preference external</a> <i>number</i>
<b>Tree</b>	<a href="#">external</a>
<b>Range</b>	1 to 255

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **internal** *number*

<b>Description</b>	Specify the route preference of internal routes carried in this level. By default the route preference of internal L1 routes is 15. By default the route preference of internal L2 routes is 18.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">route-preference internal</a> <i>number</i>
<b>Tree</b>	<a href="#">internal</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **statistics**

<b>Description</b>	Per level statistics in an ISIS instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **authentication-failures** *number*

<b>Description</b>	Number of times an IS-IS control PDU associated with this level had the correct auth type but failed to pass authentication validation
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics authentication-failures</a> <i>number</i>
<b>Tree</b>	<a href="#">authentication-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**authentication-type-failures** *number*

<b>Description</b>	Number of times an IS-IS control PDU associated with this level had an auth type field different from that for this system
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics authentication-type-failures</a> <i>number</i>
<b>Tree</b>	<a href="#">authentication-type-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**corrupted-lsps** *number*

<b>Description</b>	Number of corrupted in-memory LSPs detected. LSPs received from the wire with a bad checksum are silently dropped and not counted. LSPs received from the wire with parse errors are counted by lsp-errors
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics corrupted-lsps</a> <i>number</i>
<b>Tree</b>	<a href="#">corrupted-lsps</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**database-overloads** *number*

<b>Description</b>	Number of times the database has become overloaded
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics database-overloads</a> <i>number</i>
<b>Tree</b>	<a href="#">database-overloads</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**exceeded-max-sequence-number** *number*

<b>Description</b>	Number of times the system has attempted to exceed the maximum sequence number
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics exceeded-max-sequence-number</a> <i>number</i>

<b>Tree</b>	<a href="#">exceeded-max-sequence-number</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **lsp-errors** *number*

<b>Description</b>	Number of received LSPs with parse errors
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics lsp-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">lsp-errors</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **manual-address-drop-from-area** *number*

<b>Description</b>	number of times a manual address has been dropped from area
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics manual-address-drop-from-area</a> <i>number</i>
<b>Tree</b>	<a href="#">manual-address-drop-from-area</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **max-area-address-mismatches** *number*

<b>Description</b>	Number of times an IS-IS control PDU associated with this level was received with a max area address field different from that for this system
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics max-area-address-mismatches</a> <i>number</i>
<b>Tree</b>	<a href="#">max-area-address-mismatches</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**own-lsp-purges** *number*

<b>Description</b>	Number of times a zero-aged copy of the system's own LSP is received from some other node
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics own-lsp-purges</a> <i>number</i>
<b>Tree</b>	<a href="#">own-lsp-purges</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sequence-number-skips** *number*

<b>Description</b>	Number of times a sequence number skip has occurred
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics sequence-number-skips</a> <i>number</i>
<b>Tree</b>	<a href="#">sequence-number-skips</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**spf-runs** *number*

<b>Description</b>	number of times a full SPF run has been performed on the level LSDB since the IS-IS manager restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics spf-runs</a> <i>number</i>
<b>Tree</b>	<a href="#">spf-runs</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**system-id-length-mismatches** *number*

<b>Description</b>	Number of times an IS-IS control PDU associated with this level was received with a system ID field length different from that for this system
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">statistics system-id-length-mismatches</a> <i>number</i>



<b>Tree</b>	<a href="#">system-id-length-mismatches</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### trace-options

<b>Description</b>	Level debug trace options for IS-IS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### trace *keyword*

<b>Description</b>	List of tracing options
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level level-number</a> <i>number</i> <a href="#">trace-options</a> <a href="#">trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">adjacencies</a></li> <li>• <a href="#">lsdb</a></li> <li>• <a href="#">routes</a></li> <li>• <a href="#">spf</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### level-capability *keyword*

<b>Description</b>	The level-capability of the intermediate system (router)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-capability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">level-capability</a>
<b>Default</b>	L2
<b>Options</b>	<ul style="list-style-type: none"> <li>• L1</li> </ul> <p>This enum describes ISIS level 1</p>

- L2  
This enum describes ISIS level 2
- L1L2  
This enum describes ISIS level 1-2

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **level-database** *level-number number lsp-id string*

<b>Description</b>	Link State database
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level-database level-number number lsp-id string</a>
<b>Tree</b>	<a href="#">level-database</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **level-number** *number*

<b>Description</b>	Specifies the IS-IS protocol level to which these attributes are applied.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level-database level-number number lsp-id string</a>
<b>Range</b>	1 to 2
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **lsp-id** *string*

<b>Description</b>	The value specifies the LSP Id and is given in the format as 6 octets of adjacency system-id followed by 1 octet Lan-ID and 1 octet LSP Number.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level-database level-number number lsp-id string</a>
<b>String Length</b>	20
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**attributes**

<b>Description</b>	Enter the attributes context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">attributes</a>
<b>Tree</b>	<a href="#">attributes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**attached** *boolean*

<b>Description</b>	Set to true in the L1 LSP when the IS has a Level 2 adjacency.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">attributes attached</a> <i>boolean</i>
<b>Tree</b>	<a href="#">attached</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**level1-is-type** *boolean*

<b>Description</b>	Set to true when the router participates in L1
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">attributes level1-is-type</a> <i>boolean</i>
<b>Tree</b>	<a href="#">level1-is-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**level2-is-type** *boolean*

<b>Description</b>	Set to true when the router participates in L2
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">attributes level2-is-type</a> <i>boolean</i>
<b>Tree</b>	<a href="#">level2-is-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**overload** *boolean*

<b>Description</b>	Set to true when the IS is in overload state and should be avoided for transit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">attributes overload</a> <i>boolean</i>
<b>Tree</b>	<a href="#">overload</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**checksum** *string*

<b>Description</b>	The value indicates the checksum of contents of LSP from the SourceID field in the LSP till the end. The checksum is computed using the Fletcher checksum algorithm.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">checksum</a> <i>string</i>
<b>Tree</b>	<a href="#">checksum</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**defined-tlvs**

<b>Description</b>	List of defined TLV-s contained in LSP.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs</a>
<b>Tree</b>	<a href="#">defined-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**area-addresses** *string*

<b>Description</b>	Each item represents an area address advertised by the LSP.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs</a> <a href="#">area-addresses</a> <i>string</i>
<b>Tree</b>	<a href="#">area-addresses</a>
<b>String Length</b>	2 to 38
<b>Configurable</b>	False

**Platforms** Supported on all platforms

## authentication

**Description** Authentication TLV. TLV type = 10

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs authentication](#)

**Tree** [authentication](#)

**Configurable** False

**Platforms** Supported on all platforms

## auth-data *string*

**Description** The authentication data

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs authentication auth-data](#) *string*

**Tree** [auth-data](#)

**Configurable** False

**Platforms** Supported on all platforms

## auth-type *keyword*

**Description** Enter the auth-type context

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs authentication auth-type](#) *keyword*

**Tree** [auth-type](#)

**Options**

- cleartext
- crypto
- hmac-md5

**Configurable** False

**Platforms** Supported on all platforms

## extended-ipv4-reachability [ipv4-prefix](#) *string*

**Description** TLV specifying extended IPv4 Reachability information in the LSP. TLV type = 135

<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols isis instance name</code> <i>string</i> <code>level-database level-number</code> <i>number</i> <code>lsp-id</code> <i>string</i> <code>defined-tlvs extended-ipv4-reachability ipv4-prefix</code> <i>string</i>
<b>Tree</b>	<code>extended-ipv4-reachability</code>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4-prefix** *string*

<b>Description</b>	An IPv4 prefix that is reachable to the router.
<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols isis instance name</code> <i>string</i> <code>level-database level-number</code> <i>number</i> <code>lsp-id</code> <i>string</i> <code>defined-tlvs extended-ipv4-reachability ipv4-prefix</code> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**down** *boolean*

<b>Description</b>	Reads true when the IPv4 prefix was leaked down from Level2 to Level1.
<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols isis instance name</code> <i>string</i> <code>level-database level-number</code> <i>number</i> <code>lsp-id</code> <i>string</i> <code>defined-tlvs extended-ipv4-reachability ipv4-prefix</code> <i>string</i> <code>down</code> <i>boolean</i>
<b>Tree</b>	<code>down</code>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**metric** *number*

<b>Description</b>	The default metric to reach the IPv4 prefix.
<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols isis instance name</code> <i>string</i> <code>level-database level-number</code> <i>number</i> <code>lsp-id</code> <i>string</i> <code>defined-tlvs extended-ipv4-reachability ipv4-prefix</code> <i>string</i> <code>metric</code> <i>number</i>
<b>Tree</b>	<code>metric</code>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sub-tlvs**

<b>Description</b>	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs</a>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-tag-32bit** *number*

<b>Description</b>	List of 32-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs route-tag-32bit</a> <i>number</i>
<b>Tree</b>	<a href="#">route-tag-32bit</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-tag-64bit** *number*

<b>Description</b>	List of 64-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs route-tag-64bit</a> <i>number</i>
<b>Tree</b>	<a href="#">route-tag-64bit</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**segment-routing-prefix-sid**

<b>Description</b>	Carries a segment routing prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid</a>
<b>Tree</b>	<a href="#">segment-routing-prefix-sid</a>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **algorithm** *keyword*

**Description** Contains the identifier of the algorithm the router uses to compute the reachability of the prefix to which the Prefix-SID is associated

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs extended-ipv4-reachability ipv4-prefix](#) *string* [sub-tlvs segment-routing-prefix-sid](#) *algorithm keyword*

**Tree** [algorithm](#)

**Options**

- spf
- strict-spf

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **explicit-null** *boolean*

**Description** If set any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID that has an Explicit NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs extended-ipv4-reachability ipv4-prefix](#) *string* [sub-tlvs segment-routing-prefix-sid](#) *explicit-null boolean*

**Tree** [explicit-null](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **local** *boolean*

**Description** If set, then the value/index carried by the Prefix-SID has local significance.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs extended-ipv4-reachability ipv4-prefix](#) *string* [sub-tlvs segment-routing-prefix-sid](#) *local boolean*

**Tree** [local](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**node-sid** *boolean*

<b>Description</b>	If set the prefix SID refers to the router identified by the prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid node-sid</a> <i>boolean</i>
<b>Tree</b>	<a href="#">node-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**penultimate-hop-popping** *boolean*

<b>Description</b>	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid penultimate-hop-popping</a> <i>boolean</i>
<b>Tree</b>	<a href="#">penultimate-hop-popping</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**re-advertised** *boolean*

<b>Description</b>	If set the prefix to which this Prefix-SID is attached has been propagated by the router from either another level or from another protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid re-advertised</a> <i>boolean</i>
<b>Tree</b>	<a href="#">re-advertised</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sr-index-or-label** *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
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<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-ipv4-reachability ipv4-prefix <i>string</i> sub-tlvs segment-routing-prefix-sid sr-index-or-label <i>number</i>
<b>Tree</b>	sr-index-or-label
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**value** *boolean*

<b>Description</b>	If set then the Prefix-SID carries a value
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-ipv4-reachability ipv4-prefix <i>string</i> sub-tlvs segment-routing-prefix-sid value <i>boolean</i>
<b>Tree</b>	value
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**extended-is-reachability** *neighbor string*

<b>Description</b>	Each TLV encodes the identity of an adjacent IS neighbor. TLV type = 22
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-is-reachability neighbor <i>string</i>
<b>Tree</b>	extended-is-reachability
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor** *string*

<b>Description</b>	An adjacent IS neighbor
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-is-reachability neighbor <i>string</i>
<b>String Length</b>	17
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**default-metric** *number*

<b>Description</b>	The default metric to reach this adjacent neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <b>default-metric</b> <i>number</i>
<b>Tree</b>	<a href="#">default-metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sub-tlvs**

<b>Description</b>	SubTLVs of TLV 22 and TLV 222
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <b>sub-tlvs</b>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4-interface-address** *string*

<b>Description</b>	The IPv4 address of the interface to the neighbor. Sub-TLV = 6.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs</a> <b>ipv4-interface-address</b> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-interface-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4-neighbor-address** *string*

<b>Description</b>	The IPv4 address of the neighbor. Sub-TLV = 8.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs</a> <b>ipv4-neighbor-address</b> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-neighbor-address</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv6-interface-address *string*

<b>Description</b>	The IPv6 address of the interface to the neighbor. Sub-TLV = 12.
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols isis instance name <i>string</i></a> <a href="#">level-database level-number <i>number</i></a> <a href="#">lsp-id <i>string</i></a> <a href="#">defined-tlvs extended-is-reachability neighbor <i>string</i></a> <a href="#">sub-tlvs ipv6-interface-address <i>string</i></a>
<b>Tree</b>	<a href="#">ipv6-interface-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv6-neighbor-address *string*

<b>Description</b>	The IPv4 address of the neighbor. Sub-TLV = 13.
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols isis instance name <i>string</i></a> <a href="#">level-database level-number <i>number</i></a> <a href="#">lsp-id <i>string</i></a> <a href="#">defined-tlvs extended-is-reachability neighbor <i>string</i></a> <a href="#">sub-tlvs ipv6-neighbor-address <i>string</i></a>
<b>Tree</b>	<a href="#">ipv6-neighbor-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### link-msd

<b>Description</b>	The maximum segment depth of the link to the neighbor. Sub-TLV = 15.
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols isis instance name <i>string</i></a> <a href="#">level-database level-number <i>number</i></a> <a href="#">lsp-id <i>string</i></a> <a href="#">defined-tlvs extended-is-reachability neighbor <i>string</i></a> <a href="#">sub-tlvs link-msd</a>
<b>Tree</b>	<a href="#">link-msd</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### msd-info [msd-type \(keyword | number\)](#) [msd-value](#) *number*

<b>Description</b>	List of MSD entries
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols isis instance name <i>string</i></a> <a href="#">level-database level-number <i>number</i></a> <a href="#">lsp-id <i>string</i></a> <a href="#">defined-tlvs extended-is-</a>

	<a href="#">reachability neighbor string sub-tlvs link-msd msd-info msd-type (keyword   number) msd-value number</a>
<b>Tree</b>	<a href="#">msd-info</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **msd-type (keyword | number)**

<b>Description</b>	MSD type
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs extended-is-reachability neighbor string sub-tlvs link-msd msd-info msd-type (keyword   number) msd-value number</a>
<b>Range</b>	2 to 254
<b>Options</b>	<ul style="list-style-type: none"> <li>base-mpls-imposition-msd</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **msd-value number**

<b>Description</b>	A number in the range of 0-255 representing the maximum SID depth; for all MSD-Types, 0 represents the lack of ability to support a SID stack of any depth
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs extended-is-reachability neighbor string sub-tlvs link-msd msd-info msd-type (keyword   number) msd-value number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **segment-routing-adjacency-sid sr-index-or-label number**

<b>Description</b>	List of Adj-SID sub-TLVs associated with the neighbor. Sub-TLV = 31.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs extended-is-reachability neighbor string sub-tlvs segment-routing-adjacency-sid sr-index-or-label number</a>
<b>Tree</b>	<a href="#">segment-routing-adjacency-sid</a>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sr-index-or-label *number*

**Description** An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs extended-is-reachability neighbor](#) *string* [sub-tlvs segment-routing-adjacency-sid sr-index-or-label](#) *number*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### adj-set *boolean*

**Description** When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs extended-is-reachability neighbor](#) *string* [sub-tlvs segment-routing-adjacency-sid sr-index-or-label](#) *number* [adj-set](#) *boolean*

**Tree** [adj-set](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### backup *boolean*

**Description** If set, the Adj-SID is eligible for protection

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs extended-is-reachability neighbor](#) *string* [sub-tlvs segment-routing-adjacency-sid sr-index-or-label](#) *number* [backup](#) *boolean*

**Tree** [backup](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### ipv6-family *boolean*

**Description** If set, then the Adj-SID is used for forwarding IPv6 traffic to the neighbor; else the Adj-SID is used for forwarding IPv4 traffic.

<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-is-reachability neighbor <i>string</i> sub-tlvs segment-routing-adjacency-sid sr-index-or-label <i>number</i> ipv6-family <i>boolean</i>
<b>Tree</b>	ipv6-family
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Adj-SID has local significance.
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-is-reachability neighbor <i>string</i> sub-tlvs segment-routing-adjacency-sid sr-index-or-label <i>number</i> local <i>boolean</i>
<b>Tree</b>	local
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**persistent** *boolean*

<b>Description</b>	When set, the P-Flag indicates that the Adj-SID is persistently allocated, i.e., the Adj-SID value remains consistent across router restart and/or interface flap
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-is-reachability neighbor <i>string</i> sub-tlvs segment-routing-adjacency-sid sr-index-or-label <i>number</i> persistent <i>boolean</i>
<b>Tree</b>	persistent
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**value** *boolean*

<b>Description</b>	If set then the Adj-SID carries a value
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> level-database level-number <i>number</i> lsp-id <i>string</i> defined-tlvs extended-is-reachability neighbor <i>string</i> sub-tlvs segment-routing-adjacency-sid sr-index-or-label <i>number</i> value <i>boolean</i>
<b>Tree</b>	value

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**weight** *number*

<b>Description</b>	The value represents the weight of the Adj-SID for the purpose of load balancing
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i> <b>weight</b> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**segment-routing-lan-adjacency-sid** [sr-index-or-label](#) *number*

<b>Description</b>	List of LAN Adj-SID sub-TLVs. Each describes the set of Adj-SIDs the router assigned to each of its LAN neighbors. Sub-TLV = 32.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i>
<b>Tree</b>	<a href="#">segment-routing-lan-adjacency-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sr-index-or-label** *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**adj-set** *boolean*

<b>Description</b>	When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <b>adj-set</b> <i>boolean</i>
<b>Tree</b>	<a href="#">adj-set</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**backup** *boolean*

<b>Description</b>	If set, the Adj-SID is eligible for protection
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <b>backup</b> <i>boolean</i>
<b>Tree</b>	<a href="#">backup</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv6-family** *boolean*

<b>Description</b>	If set, then the Adj-SID is used for forwarding IPv6 traffic to the neighbor; else the Adj-SID is used for forwarding IPv4 traffic.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <b>ipv6-family</b> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-family</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Adj-SID has local significance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-</a>

	<a href="#">reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">local</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**neighbor-system-id** *string*

<b>Description</b>	IS-IS system-ID of the LAN neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">neighbor-system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-system-id</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**persistent** *boolean*

<b>Description</b>	When set, the P-Flag indicates that the Adj-SID is persistently allocated, i.e., the Adj-SID value remains consistent across router restart and/or interface flap
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">persistent</a> <i>boolean</i>
<b>Tree</b>	<a href="#">persistent</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**value** *boolean*

<b>Description</b>	If set then the Adj-SID carries a value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">value</a> <i>boolean</i>
<b>Tree</b>	<a href="#">value</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**weight** *number*

<b>Description</b>	The value represents the weight of the Adj-SID for the purpose of load balancing
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs extended-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">weight</a> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hostname** *string*

<b>Description</b>	Host name that advertised this LSP.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs hostname</a> <i>string</i>
<b>Tree</b>	<a href="#">hostname</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4-external-reachability** [ipv4-prefix](#) *string*

<b>Description</b>	TLV specifying external IPv4 Reachability information in the LSP. External reachability is typically routing information learned from another protocol. TLV type = 130
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-external-reachability ipv4-prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-external-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4-prefix** *string*

<b>Description</b>	An IPv4 prefix that is reachable to the router.
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**Context** `network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs ipv4-external-reachability ipv4-prefix string`

**Configurable** False

**Platforms** Supported on all platforms

### **default-metric** *number*

**Description** The default metric to reach the IPv4 prefix.

**Context** `network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs ipv4-external-reachability ipv4-prefix string default-metric number`

**Tree** `default-metric`

**Range** 0 to 63

**Configurable** False

**Platforms** Supported on all platforms

### **default-metric-type** *keyword*

**Description** The default metric type: internal or external.

**Context** `network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs ipv4-external-reachability ipv4-prefix string default-metric-type keyword`

**Tree** `default-metric-type`

- Options**
- internal  
This enum describes internal route type
  - external  
This enum describes external route type

**Configurable** False

**Platforms** Supported on all platforms

### **down** *boolean*

**Description** Reads true when the IPv4 prefix was leaked down from Level2 to Level1.

**Context** `network-instance name string protocols isis instance name string level-database level-number number lsp-id string defined-tlvs ipv4-external-reachability ipv4-prefix string down boolean`

**Tree** `down`

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv4-interface-addresses** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Each item represents an IPv4 address configured on an interface in this IS-IS instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-interface-addresses</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">ipv4-interface-addresses</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv4-internal-reachability** [ipv4-prefix](#) *string*

<b>Description</b>	TLV specifying internal IPv4 Reachability information in the LSP. TLV type = 128
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-internal-reachability ipv4-prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-internal-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv4-prefix** *string*

<b>Description</b>	An IPv4 prefix that is reachable to the router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-internal-reachability ipv4-prefix</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **default-metric** *number*

<b>Description</b>	The default metric to reach the IPv4 prefix.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-internal-reachability ipv4-prefix</a> <i>string</i> <a href="#">default-metric</a> <i>number</i>
<b>Tree</b>	<a href="#">default-metric</a>
<b>Range</b>	0 to 63
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **default-metric-type** *keyword*

<b>Description</b>	The default metric type: internal or external.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-internal-reachability ipv4-prefix</a> <i>string</i> <a href="#">default-metric-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">default-metric-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>internal</code> This enum describes internal route type</li> <li>• <code>external</code> This enum describes external route type</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **down** *boolean*

<b>Description</b>	Reads true when the IPv4 prefix was leaked down from Level2 to Level1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv4-internal-reachability ipv4-prefix</a> <i>string</i> <a href="#">down</a> <i>boolean</i>
<b>Tree</b>	<a href="#">down</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv6-interface-addresses** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Each item represents an IPv6 address configured on an interface in this IS-IS instance.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-interface-addresses</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">ipv6-interface-addresses</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv6-reachability** [ipv6-prefix](#) *string*

<b>Description</b>	TLV specifying IPv6 Reachability information in the LSP. TLV type = 236
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv6-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv6-prefix** *string*

<b>Description</b>	An IPv6 prefix that is reachable to the router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **down** *boolean*

<b>Description</b>	Reads true when the IPv6 prefix was leaked down from Level2 to Level1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">down</a> <i>boolean</i>
<b>Tree</b>	<a href="#">down</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**external** *boolean*

<b>Description</b>	Reads true when the IPv6 prefix reachability is external (learned from another protocol).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <b>external</b> <i>boolean</i>
<b>Tree</b>	<a href="#">external</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**metric** *number*

<b>Description</b>	The metric to reach this IPv6 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <b>metric</b> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sub-tlvs**

<b>Description</b>	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <b>sub-tlvs</b>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-tag-32bit** *number*

<b>Description</b>	List of 32-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs</a> <b>route-tag-32bit</b> <i>number</i>
<b>Tree</b>	<a href="#">route-tag-32bit</a>



<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-tag-64bit** *number*

<b>Description</b>	List of 64-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs route-tag-64bit</a> <i>number</i>
<b>Tree</b>	<a href="#">route-tag-64bit</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **segment-routing-prefix-sid**

<b>Description</b>	Carries a segment routing prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid</a>
<b>Tree</b>	<a href="#">segment-routing-prefix-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **algorithm** *keyword*

<b>Description</b>	Contains the identifier of the algorithm the router uses to compute the reachability of the prefix to which the Prefix-SID is associated
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid algorithm</a> <i>keyword</i>
<b>Tree</b>	<a href="#">algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• spf</li> <li>• strict-spf</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**explicit-null** *boolean*

<b>Description</b>	If set any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID that has an Explicit NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid explicit-null</a> <i>boolean</i>
<b>Tree</b>	<a href="#">explicit-null</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Prefix-SID has local significance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid local</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**node-sid** *boolean*

<b>Description</b>	If set the prefix SID refers to the router identified by the prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid node-sid</a> <i>boolean</i>
<b>Tree</b>	<a href="#">node-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**penultimate-hop-popping** *boolean*

<b>Description</b>	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid penultimate-hop-popping</a> <i>boolean</i>

<b>Tree</b>	<a href="#">penultimate-hop-popping</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### re-advertised *boolean*

<b>Description</b>	If set the prefix to which this Prefix-SID is attached has been propagated by the router from either another level or from another protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid re-advertised</a> <i>boolean</i>
<b>Tree</b>	<a href="#">re-advertised</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sr-index-or-label *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid sr-index-or-label</a> <i>number</i>
<b>Tree</b>	<a href="#">sr-index-or-label</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### value *boolean*

<b>Description</b>	If set then the Prefix-SID carries a value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid value</a> <i>boolean</i>
<b>Tree</b>	<a href="#">value</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**is-reachability neighbor string**

<b>Description</b>	Each TLV encodes the identity of an adjacent IS neighbor. TLV type = 2
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs is-reachability neighbor string</a>
<b>Tree</b>	<a href="#">is-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor string**

<b>Description</b>	An adjacent IS neighbor
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs is-reachability neighbor string</a>
<b>String Length</b>	17
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**default-metric number**

<b>Description</b>	The default metric to reach this adjacent neighbor.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs is-reachability neighbor string</a> <a href="#">default-metric number</a>
<b>Tree</b>	<a href="#">default-metric</a>
<b>Range</b>	0 to 63
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**default-metric-type keyword**

<b>Description</b>	The default metric type: internal or external.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs is-reachability neighbor string</a> <a href="#">default-metric-type keyword</a>
<b>Tree</b>	<a href="#">default-metric-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>internal</li> </ul>

- external

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### mt-ipv4-reachability *ipv4-prefix string*

<b>Description</b>	TLV specifying multi-topology IPv4 reachability information in the LSP. TLV type = 235
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix string</a>
<b>Tree</b>	<a href="#">mt-ipv4-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv4-prefix *string*

<b>Description</b>	An IPv4 prefix that is reachable to the router.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix string</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### down *boolean*

<b>Description</b>	Reads true when the IPv4 prefix was leaked down from Level2 to Level1.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix string</a> <a href="#">down boolean</a>
<b>Tree</b>	<a href="#">down</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### metric *number*

<b>Description</b>	The default metric to reach the IPv4 prefix.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mt-id** *number*

<b>Description</b>	A multi-topology ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">mt-id</a> <i>number</i>
<b>Tree</b>	<a href="#">mt-id</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sub-tlvs**

<b>Description</b>	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs</a>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-tag-32bit** *number*

<b>Description</b>	List of 32-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs route-tag-32bit</a> <i>number</i>
<b>Tree</b>	<a href="#">route-tag-32bit</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### route-tag-64bit *number*

**Description** List of 64-bit administrative tag values associated with the IPv4 prefix.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs mt-ipv4-reachability ipv4-prefix](#) *string* [sub-tlvs route-tag-64bit](#) *number*

**Tree** [route-tag-64bit](#)

**Configurable** False

**Platforms** Supported on all platforms

### segment-routing-prefix-sid

**Description** Carries a segment routing prefix SID

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs mt-ipv4-reachability ipv4-prefix](#) *string* [sub-tlvs segment-routing-prefix-sid](#)

**Tree** [segment-routing-prefix-sid](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### algorithm *keyword*

**Description** Contains the identifier of the algorithm the router uses to compute the reachability of the prefix to which the Prefix-SID is associated

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs mt-ipv4-reachability ipv4-prefix](#) *string* [sub-tlvs segment-routing-prefix-sid algorithm](#) *keyword*

**Tree** [algorithm](#)

**Options**

- spf
- strict-spf

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**explicit-null** *boolean*

<b>Description</b>	If set any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID that has an Explicit NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid explicit-null</a> <i>boolean</i>
<b>Tree</b>	<a href="#">explicit-null</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Prefix-SID has local significance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid local</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**node-sid** *boolean*

<b>Description</b>	If set the prefix SID refers to the router identified by the prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid node-sid</a> <i>boolean</i>
<b>Tree</b>	<a href="#">node-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**penultimate-hop-popping** *boolean*

<b>Description</b>	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid penultimate-hop-popping</a> <i>boolean</i>



<b>Tree</b>	<a href="#">penultimate-hop-popping</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### re-advertised *boolean*

<b>Description</b>	If set the prefix to which this Prefix-SID is attached has been propagated by the router from either another level or from another protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid re-advertised</a> <i>boolean</i>
<b>Tree</b>	<a href="#">re-advertised</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sr-index-or-label *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid sr-index-or-label</a> <i>number</i>
<b>Tree</b>	<a href="#">sr-index-or-label</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### value *boolean*

<b>Description</b>	If set then the Prefix-SID carries a value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv4-reachability ipv4-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid value</a> <i>boolean</i>
<b>Tree</b>	<a href="#">value</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mt-ipv6-reachability** *ipv6-prefix string*

<b>Description</b>	TLV specifying IPv6 Reachability information in the LSP. TLV type = 237
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix string</a>
<b>Tree</b>	<a href="#">mt-ipv6-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv6-prefix** *string*

<b>Description</b>	An IPv6 prefix that is reachable to the router.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix string</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**down** *boolean*

<b>Description</b>	Reads true when the IPv6 prefix was leaked down from Level2 to Level1.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix string</a> <a href="#">down boolean</a>
<b>Tree</b>	<a href="#">down</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**external** *boolean*

<b>Description</b>	Reads true when the IPv6 prefix reachability is external (learned from another protocol).
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix string</a> <a href="#">external boolean</a>
<b>Tree</b>	<a href="#">external</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**metric number**

<b>Description</b>	The metric to reach this IPv6 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mt-id number**

<b>Description</b>	A multi-topology ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">mt-id</a> <i>number</i>
<b>Tree</b>	<a href="#">mt-id</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sub-tlvs**

<b>Description</b>	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs</a>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-tag-32bit number**

<b>Description</b>	List of 32-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs route-tag-32bit</a> <i>number</i>

<b>Tree</b>	<a href="#">route-tag-32bit</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-tag-64bit** *number*

<b>Description</b>	List of 64-bit administrative tag values associated with the IPv4 prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs route-tag-64bit</a> <i>number</i>
<b>Tree</b>	<a href="#">route-tag-64bit</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **segment-routing-prefix-sid**

<b>Description</b>	Carries a segment routing prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid</a>
<b>Tree</b>	<a href="#">segment-routing-prefix-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **algorithm** *keyword*

<b>Description</b>	Contains the identifier of the algorithm the router uses to compute the reachability of the prefix to which the Prefix-SID is associated
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid algorithm</a> <i>keyword</i>
<b>Tree</b>	<a href="#">algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• spf</li> <li>• strict-spf</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**explicit-null** *boolean*

<b>Description</b>	If set any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID that has an Explicit NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid explicit-null</a> <i>boolean</i>
<b>Tree</b>	<a href="#">explicit-null</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Prefix-SID has local significance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid local</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**node-sid** *boolean*

<b>Description</b>	If set the prefix SID refers to the router identified by the prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs segment-routing-prefix-sid node-sid</a> <i>boolean</i>
<b>Tree</b>	<a href="#">node-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**penultimate-hop-popping** *boolean*

<b>Description</b>	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability</a>

	<a href="#">ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-prefix-sid</a> <a href="#">penultimate-hop-popping</a> <i>boolean</i>
<b>Tree</b>	<a href="#">penultimate-hop-popping</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**re-advertised** *boolean*

<b>Description</b>	If set the prefix to which this Prefix-SID is attached has been propagated by the router from either another level or from another protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-prefix-sid</a> <a href="#">re-advertised</a> <i>boolean</i>
<b>Tree</b>	<a href="#">re-advertised</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sr-index-or-label** *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-prefix-sid</a> <a href="#">sr-index-or-label</a> <i>number</i>
<b>Tree</b>	<a href="#">sr-index-or-label</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**value** *boolean*

<b>Description</b>	If set then the Prefix-SID carries a value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-ipv6-reachability ipv6-prefix</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-prefix-sid</a> <a href="#">value</a> <i>boolean</i>
<b>Tree</b>	<a href="#">value</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mt-is-reachability neighbor string**

<b>Description</b>	Each TLV encodes the identity of an adjacent IS neighbor in a specific topology. TLV type = 222
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-is-reachability neighbor string</a>
<b>Tree</b>	<a href="#">mt-is-reachability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor string**

<b>Description</b>	An adjacent IS neighbor
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-is-reachability neighbor string</a>
<b>String Length</b>	17
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**default-metric number**

<b>Description</b>	The default metric to reach this adjacent neighbor.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-is-reachability neighbor string</a> <a href="#">default-metric number</a>
<b>Tree</b>	<a href="#">default-metric</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mt-id number**

<b>Description</b>	A multi-topology ID.
<b>Context</b>	<a href="#">network-instance name string</a> <a href="#">protocols isis instance name string</a> <a href="#">level-database level-number number</a> <a href="#">lsp-id string</a> <a href="#">defined-tlvs mt-is-reachability neighbor string</a> <a href="#">mt-id number</a>

<b>Tree</b>	<a href="#">mt-id</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### sub-tlvs

<b>Description</b>	SubTLVs of TLV 22 and TLV 222
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs</a>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv4-interface-address *string*

<b>Description</b>	The IPv4 address of the interface to the neighbor. Sub-TLV = 6.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs ipv4-interface-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-interface-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv4-neighbor-address *string*

<b>Description</b>	The IPv4 address of the neighbor. Sub-TLV = 8.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs ipv4-neighbor-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv4-neighbor-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv6-interface-address *string*

<b>Description</b>	The IPv6 address of the interface to the neighbor. Sub-TLV = 12.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs ipv6-interface-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv6-interface-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### ipv6-neighbor-address *string*

<b>Description</b>	The IPv4 address of the neighbor. Sub-TLV = 13.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs ipv6-neighbor-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ipv6-neighbor-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### link-msd

<b>Description</b>	The maximum segment depth of the link to the neighbor. Sub-TLV = 15.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs link-msd</a>
<b>Tree</b>	<a href="#">link-msd</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### msd-info [msd-type](#) (*keyword* | *number*) [msd-value](#) *number*

<b>Description</b>	List of MSD entries
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs link-msd msd-info msd-type</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">msd-value</a> <i>number</i>
<b>Tree</b>	<a href="#">msd-info</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**msd-type** (*keyword | number*)

<b>Description</b>	MSD type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs link-msd msd-info msd-type</a> ( <i>keyword   number</i> ) <a href="#">msd-value</a> <i>number</i>
<b>Range</b>	2 to 254
<b>Options</b>	<ul style="list-style-type: none"> <li>base-mpls-imposition-msd</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**msd-value** *number*

<b>Description</b>	A number in the range of 0-255 representing the maximum SID depth; for all MSD-Types, 0 represents the lack of ability to support a SID stack of any depth
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs link-msd msd-info msd-type</a> ( <i>keyword   number</i> ) <a href="#">msd-value</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**segment-routing-adjacency-sid** [sr-index-or-label](#) *number*

<b>Description</b>	List of Adj-SID sub-TLVs associated with the neighbor. Sub-TLV = 31.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i>
<b>Tree</b>	<a href="#">segment-routing-adjacency-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sr-index-or-label** *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**adj-set** *boolean*

<b>Description</b>	When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">adj-set</a> <i>boolean</i>
<b>Tree</b>	<a href="#">adj-set</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**backup** *boolean*

<b>Description</b>	If set, the Adj-SID is eligible for protection
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">backup</a> <i>boolean</i>
<b>Tree</b>	<a href="#">backup</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv6-family** *boolean*

<b>Description</b>	If set, then the Adj-SID is used for forwarding IPv6 traffic to the neighbor; else the Adj-SID is used for forwarding IPv4 traffic.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">ipv6-family</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-family</a>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### local *boolean*

**Description** If set, then the value/index carried by the Adj-SID has local significance.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs mt-is-reachability neighbor](#) *string* [sub-tlvs segment-routing-adjacency-sid sr-index-or-label](#) *number* [local](#) *boolean*

**Tree** [local](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### persistent *boolean*

**Description** When set, the P-Flag indicates that the Adj-SID is persistently allocated, i.e., the Adj-SID value remains consistent across router restart and/or interface flap

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs mt-is-reachability neighbor](#) *string* [sub-tlvs segment-routing-adjacency-sid sr-index-or-label](#) *number* [persistent](#) *boolean*

**Tree** [persistent](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### value *boolean*

**Description** If set then the Adj-SID carries a value

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs mt-is-reachability neighbor](#) *string* [sub-tlvs segment-routing-adjacency-sid sr-index-or-label](#) *number* [value](#) *boolean*

**Tree** [value](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**weight** *number*

<b>Description</b>	The value represents the weight of the Adj-SID for the purpose of load balancing
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">weight</a> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**segment-routing-lan-adjacency-sid** [sr-index-or-label](#) *number*

<b>Description</b>	List of LAN Adj-SID sub-TLVs. Each describes the set of Adj-SIDs the router assigned to each of its LAN neighbors. Sub-TLV = 32.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i>
<b>Tree</b>	<a href="#">segment-routing-lan-adjacency-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sr-index-or-label** *number*

<b>Description</b>	An index representing an offset in the SID/label space advertised by the router or else a direct encoding of an MPLS label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**adj-set** *boolean*

<b>Description</b>	When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability</a>

	<a href="#">neighbor</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-lan-adjacency-sid</a> <a href="#">sr-index-or-label</a> <i>number</i> <a href="#">adj-set</a> <i>boolean</i>
<b>Tree</b>	<a href="#">adj-set</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**backup** *boolean*

<b>Description</b>	If set, the Adj-SID is eligible for protection
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">isis</a> <a href="#">instance name</a> <i>string</i> <a href="#">level-database</a> <a href="#">level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs</a> <a href="#">mt-is-reachability</a> <a href="#">neighbor</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-lan-adjacency-sid</a> <a href="#">sr-index-or-label</a> <i>number</i> <a href="#">backup</a> <i>boolean</i>
<b>Tree</b>	<a href="#">backup</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv6-family** *boolean*

<b>Description</b>	If set, then the Adj-SID is used for forwarding IPv6 traffic to the neighbor; else the Adj-SID is used for forwarding IPv4 traffic.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">isis</a> <a href="#">instance name</a> <i>string</i> <a href="#">level-database</a> <a href="#">level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs</a> <a href="#">mt-is-reachability</a> <a href="#">neighbor</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-lan-adjacency-sid</a> <a href="#">sr-index-or-label</a> <i>number</i> <a href="#">ipv6-family</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-family</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Adj-SID has local significance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">isis</a> <a href="#">instance name</a> <i>string</i> <a href="#">level-database</a> <a href="#">level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs</a> <a href="#">mt-is-reachability</a> <a href="#">neighbor</a> <i>string</i> <a href="#">sub-tlvs</a> <a href="#">segment-routing-lan-adjacency-sid</a> <a href="#">sr-index-or-label</a> <i>number</i> <a href="#">local</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**neighbor-system-id** *string*

<b>Description</b>	IS-IS system-ID of the LAN neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">neighbor-system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor-system-id</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**persistent** *boolean*

<b>Description</b>	When set, the P-Flag indicates that the Adj-SID is persistently allocated, i.e., the Adj-SID value remains consistent across router restart and/or interface flap
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">persistent</a> <i>boolean</i>
<b>Tree</b>	<a href="#">persistent</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**value** *boolean*

<b>Description</b>	If set then the Adj-SID carries a value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">value</a> <i>boolean</i>
<b>Tree</b>	<a href="#">value</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**weight** *number*

<b>Description</b>	The value represents the weight of the Adj-SID for the purpose of load balancing
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs mt-is-reachability neighbor</a> <i>string</i> <a href="#">sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label</a> <i>number</i> <a href="#">weight</a> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**multi-topology**

<b>Description</b>	The Multi-Topology TLV, type 229.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs multi-topology</a>
<b>Tree</b>	<a href="#">multi-topology</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**topology** [mt-id](#) *number*

<b>Description</b>	The list of multi-topology IDs that the router is participating in
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs multi-topology topology mt-id</a> <i>number</i>
<b>Tree</b>	<a href="#">topology</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mt-id** *number*

<b>Description</b>	A multi-topology ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs multi-topology topology mt-id</a> <i>number</i>
<b>Range</b>	0 to 4095
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### **attached** *boolean*

**Description** Reads true when the topology is attached to Level 2

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs multi-topology topology mt-id](#) *number* **attached** *boolean*

**Tree** [attached](#)

**Configurable** False

**Platforms** Supported on all platforms

### **overload** *boolean*

**Description** Reads true when the topology is in overload state.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs multi-topology topology mt-id](#) *number* **overload** *boolean*

**Tree** [overload](#)

**Configurable** False

**Platforms** Supported on all platforms

### **nlpid** *keyword*

**Description** Each item represents a network layer protocol supported by the IS-IS Instance.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [level-database level-number](#) *number* [lsp-id](#) *string* [defined-tlvs nlpid](#) *keyword*

**Tree** [nlpid](#)

**Options**

- IPv4  
NLPID 0xCC corresponding to IPv4
- IPv6  
NLPID 0x8E corresponding to IPv6
- CLNS  
NLPID 0x81 corresponding to CLNS

**Configurable** False

**Platforms** Supported on all platforms

**purge-oi** *string*

<b>Description</b>	This indicates System ID that originated a purge.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs purge-oi</a> <i>string</i>
<b>Tree</b>	<a href="#">purge-oi</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**router-capability**

<b>Description</b>	Allows a router to announce its capabilities within an IS-IS level or the entire routing domain. TLV = 242.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability</a>
<b>Tree</b>	<a href="#">router-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**leaked-down** *boolean*

<b>Description</b>	When true, the TLV was leaked down from Level 2 to Level 1 and must not be leaked back up to L2
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability leaked-down</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leaked-down</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**router-id** *string*

<b>Description</b>	Router ID indicating the source of the TLV
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability router-id</a> <i>string</i>
<b>Tree</b>	<a href="#">router-id</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### scope-is-domain-wide *boolean*

<b>Description</b>	When true, the TLV MUST be flooded across the entire routing domain. When false, the TLV MUST NOT be leaked between levels.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability scope-is-domain-wide</a> <i>boolean</i>
<b>Tree</b>	<a href="#">scope-is-domain-wide</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### sub-tlvs

<b>Description</b>	Sub-TLVs of TLV 242
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs</a>
<b>Tree</b>	<a href="#">sub-tlvs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### node-msd

<b>Description</b>	Used to carry the provisioned SID depth of the router originating the capability TLV. Node MSD is the smallest MSD supported by the node on the set of interfaces configured for use by the advertising IGP instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs node-msd</a>
<b>Tree</b>	<a href="#">node-msd</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### msd-info [msd-type](#) (*keyword* | *number*) [msd-value](#) *number*

<b>Description</b>	List of MSD entries
--------------------	---------------------

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs node-msd msd-info msd-type</a> ( <i>keyword   number</i> ) <a href="#">msd-value</a> <i>number</i>
<b>Tree</b>	<a href="#">msd-info</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **msd-type** (*keyword | number*)

<b>Description</b>	MSD type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs node-msd msd-info msd-type</a> ( <i>keyword   number</i> ) <a href="#">msd-value</a> <i>number</i>
<b>Range</b>	2 to 254
<b>Options</b>	<ul style="list-style-type: none"> <li>base-mpls-imposition-msd</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **msd-value** *number*

<b>Description</b>	A number in the range of 0-255 representing the maximum SID depth; for all MSD-Types, 0 represents the lack of ability to support a SID stack of any depth
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs node-msd msd-info msd-type</a> ( <i>keyword   number</i> ) <a href="#">msd-value</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **sr-algorithm**

<b>Description</b>	Advertises the IGP algorithms that the router is using
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-algorithm</a>
<b>Tree</b>	<a href="#">sr-algorithm</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### algorithm *number*

<b>Description</b>	List of algorithm types supported by the router. Algorithm 0 should always be in the list
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-algorithm</a> <i>algorithm number</i>
<b>Tree</b>	<a href="#">algorithm</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sr-capabilities

<b>Description</b>	Used to advertise its SR data plane capability and the range of MPLS label values each router uses for Segment Routing in the case where global SIDs are allocated.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-capabilities</a>
<b>Tree</b>	<a href="#">sr-capabilities</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### ipv4-support *boolean*

<b>Description</b>	When true, the router is capable of processing SR-MPLS-encapsulated IPv4 packets on all interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-capabilities ipv4-support</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv4-support</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv6-support** *boolean*

<b>Description</b>	When true, the router is capable of processing SR-MPLS-encapsulated IPv6 packets on all interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-capabilities</a> <a href="#">ipv6-support</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-support</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**srgb-descriptor** [sr-index-or-label](#) *number range number*

<b>Description</b>	List of Segment Routing Global Block descriptors
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-capabilities</a> <a href="#">srgb-descriptor sr-index-or-label</a> <i>number range number</i>
<b>Tree</b>	<a href="#">srgb-descriptor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sr-index-or-label** *number*

<b>Description</b>	An index representing the first value of the SRGB. The meaning (index or label) is determined from the length of the sub-tlv.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-capabilities</a> <a href="#">srgb-descriptor sr-index-or-label</a> <i>number range number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**range** *number*

<b>Description</b>	The number of SRGB elements
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-capabilities</a> <a href="#">srgb-descriptor sr-index-or-label</a> <i>number range number</i>

<b>Range</b>	1 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sr-local-block

<b>Description</b>	Used to advertise the range of labels the node has reserved for local SIDs.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-local-block</a>
<b>Tree</b>	<a href="#">sr-local-block</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### srlb-descriptor [sr-index-or-label](#) *number range number*

<b>Description</b>	List of Segment Routing Local Block descriptors
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-local-block srlb-descriptor sr-index-or-label</a> <i>number range number</i>
<b>Tree</b>	<a href="#">srlb-descriptor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### sr-index-or-label *number*

<b>Description</b>	An index representing the first value of the SRLB. The meaning (index or label) is determined from the length of the sub-tlv.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-local-block srlb-descriptor sr-index-or-label</a> <i>number range number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### range *number*

<b>Description</b>	The number of SRLB elements
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs router-capability sub-tlvs sr-local-block srlb-descriptor sr-index-or-label</a> <i>number range number</i>
<b>Range</b>	1 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**te-router-id** *string*

<b>Description</b>	A single stable address that can always be referenced in a path that will be reachable from multiple hops away. TLV = 134.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">defined-tlvs te-router-id</a> <i>string</i>
<b>Tree</b>	<a href="#">te-router-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**maximum-area-addresses** *number*

<b>Description</b>	The value indicates the maximum number of areas supported by the originator of the LSP. A value of 0 indicates a default of 3 areas.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">maximum-area-addresses</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-area-addresses</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pdu-length** *number*

<b>Description</b>	The value indicates the PDU length for instance LSPs, CSNPs OR PSNPs at both IS-IS protocol levels i.e. L1 and L2 as maintained in the database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">pdu-length</a> <i>number</i>
<b>Tree</b>	<a href="#">pdu-length</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**pdu-type** *number*

<b>Description</b>	The value indicates the PDU type for instance LSPs, CSNPs OR PSNPs at both IS-IS protocol levels i.e. L1 and L2 as maintained in of the object packet-type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">pdu-type</a> <i>number</i>
<b>Tree</b>	<a href="#">pdu-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pkt-version** *number*

<b>Description</b>	The value indicates the version of the ISIS protocol that has generated the Packet.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">pkt-version</a> <i>number</i>
<b>Tree</b>	<a href="#">pkt-version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remaining-lifetime** *number*

<b>Description</b>	The value indicates the remaining lifetime of this LSP and is a decrementing counter that decrements in seconds starting from the value as received in the LSP if not self-originated OR from lsp-life-time for self originated LSPs. When the remaining lifetime becomes zero, the contents of the LSP should not be considered for SPF calculation.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">remaining-lifetime</a> <i>number</i>
<b>Tree</b>	<a href="#">remaining-lifetime</a>
<b>Range</b>	0 to 65535
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sequence-number** *string*

<b>Description</b>	The value indicates the sequence number of an LSP and is a four byte quantity that represents the version of an LSP. The higher the sequence
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number, the more up to date the information. The sequence number is always incremented by the system that originated the LSP and ensures that there is only one version of that LSP in the entire network.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">sequence-number</a> <i>string</i>
<b>Tree</b>	<a href="#">sequence-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **system-id-len** *number*

<b>Description</b>	The value indicates the length of the system-id as used by the originator.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">system-id-len</a> <i>number</i>
<b>Tree</b>	<a href="#">system-id-len</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **undefined-tlvs** *string*

<b>Description</b>	Undefined TLV-s as contents of the LSP.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">undefined-tlvs</a> <i>string</i>
<b>Tree</b>	<a href="#">undefined-tlvs</a>
<b>String Length</b>	27 to 9190
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **version** *number*

<b>Description</b>	The value indicates the version of the ISIS protocol that has generated the LSP
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">level-database level-number</a> <i>number</i> <a href="#">lsp-id</a> <i>string</i> <a href="#">version</a> <i>number</i>
<b>Tree</b>	<a href="#">version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max-ecmp-paths** *number*

<b>Description</b>	The maximum number of ECMP next-hops to program into the FIB for every IP prefix
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">max-ecmp-paths</a> <i>number</i>
<b>Tree</b>	<a href="#">max-ecmp-paths</a>
<b>Range</b>	1 to 64
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**net** *string*

<b>Description</b>	ISIS network entity title (NET)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">net</a> <i>string</i>
<b>Tree</b>	<a href="#">net</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**oper-area-id** *string*

<b>Description</b>	The list of area IDs associated with this IS router
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">oper-area-id</a> <i>string</i>
<b>Tree</b>	<a href="#">oper-area-id</a>
<b>String Length</b>	2 to 38
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	The value of the this object indicates the operational state of the destination.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>

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<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting This state can be set by event handler when the <code>reinvoke-with-delay</code> action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-system-id** *string*

<b>Description</b>	The ID for this instance of the Integrated IS-IS protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">oper-system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">oper-system-id</a>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**overload**

<b>Description</b>	Specifies isis routing instance behavior regarding overload
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">overload</a>
<b>Tree</b>	<a href="#">overload</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise-external** *boolean*

<b>Description</b>	When set to true, external (non-ISIS) routes continue to be advertised when the router is in overload.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">overload</a> <a href="#">advertise-external</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-external</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise-interlevel** *boolean*

<b>Description</b>	When set to true, L1->L2 and L2->L1 inter-level routes continue to be advertised when the router is in overload.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">overload</a> <a href="#">advertise-interlevel</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-interlevel</a>
<b>Default</b>	false
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## immediate

**Description** Options for advertising an overloaded state immediately

**Context** [network-instance name string protocols isis instance name string overload immediate](#)

**Tree** [immediate](#)

**Configurable** True

**Platforms** Supported on all platforms

## max-metric *boolean*

**Description** When set to true transit links are advertised with a wide metric of 0xfffffe and a narrow metric of 0x3f

**Context** [network-instance name string protocols isis instance name string overload immediate max-metric boolean](#)

**Tree** [max-metric](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

## set-bit *boolean*

**Description** When set to true, the Overload bit is set

**Context** [network-instance name string protocols isis instance name string overload immediate set-bit boolean](#)

**Tree** [set-bit](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

## instance-is-in-overload *boolean*

**Description** When set to true the IS-IS instance is currently in overload state.

**Context** [network-instance name string protocols isis instance name string overload instance-is-in-overload boolean](#)

<b>Tree</b>	<a href="#">instance-is-in-overload</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**on-boot**

<b>Description</b>	Options for advertising an overloaded state whenever the IS-IS process restarts
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string overload on-boot</a>
<b>Tree</b>	<a href="#">on-boot</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-metric *boolean***

<b>Description</b>	When set to true transit links are advertised with a wide metric of 0xfffffe and a narrow metric of 0x3f
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string overload on-boot max-metric boolean</a>
<b>Tree</b>	<a href="#">max-metric</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**set-bit *boolean***

<b>Description</b>	When set to true, the Overload bit is set
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string overload on-boot set-bit boolean</a>
<b>Tree</b>	<a href="#">set-bit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**timeout *number***

<b>Description</b>	Specifies the time that the router should remain in overload state after the IS-IS process restarts
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">overload on-boot timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">timeout</a>
<b>Range</b>	60 to 1800
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**poi-tlv** *boolean*

<b>Description</b>	When set to true, a TLV is added to purge to record the system ID of the IS generating the purge.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">poi-tlv</a> <i>boolean</i>
<b>Tree</b>	<a href="#">poi-tlv</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**restarting-neighbor-list**

<b>Description</b>	The list of neighbors that have restarted recently and that are currently being helped.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">restarting-neighbor-list</a>
<b>Tree</b>	<a href="#">restarting-neighbor-list</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor** [system-id](#) *string*

<b>Description</b>	The list of neighbors that have restarted recently and that are currently being helped.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">restarting-neighbor-list neighbor system-id</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**system-id** *string*

<b>Description</b>	The neighbor router's system ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">restarting-neighbor-list neighbor system-id</a> <i>string</i>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**hostname** *string*

<b>Description</b>	The hostname of the neighbor, as learned by TLV 137.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">restarting-neighbor-list neighbor system-id</a> <i>string</i> <a href="#">hostname</a> <i>string</i>
<b>Tree</b>	<a href="#">hostname</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**segment-routing**

<b>Description</b>	Enter the segment-routing context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing</a>
<b>Tree</b>	<a href="#">segment-routing</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mpls**

<b>Description</b>	Context used to configure SR-MPLS options
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls</a>
<b>Tree</b>	<a href="#">mpls</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## dynamic-adjacency-sids

<b>Description</b>	Enter the dynamic-adjacency-sids context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls dynamic-adjacency-sids</a>
<b>Tree</b>	<a href="#">dynamic-adjacency-sids</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## all-interfaces *boolean*

<b>Description</b>	When true, IS-IS is instructed to assign a dynamic adjacency SID to all IS-IS interfaces in all levels, except for the interfaces configured with an adjacency SID assignment of 'none' or 'static'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls dynamic-adjacency-sids all-interfaces</a> <i>boolean</i>
<b>Tree</b>	<a href="#">all-interfaces</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## hold-time (*keyword* | *number*)

<b>Description</b>	Adjacency SID hold time that is applicable to dynamically allocated adjacency SIDs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls dynamic-adjacency-sids hold-time</a> ( <i>keyword</i>   <i>number</i> )
<b>Tree</b>	<a href="#">hold-time</a>
<b>Range</b>	1 to 300
<b>Default</b>	15
<b>Units</b>	seconds
<b>Options</b>	• none
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## sid-database

**Description** Database of all prefix SIDs associated with the IS-IS instance.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [segment-routing mpls sid-database](#)

**Tree** [sid-database](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## prefix-sid [prefix \(ipv4-prefix | ipv6-prefix\)](#) [sid-label-value](#) *number* [multi-topology-id](#) *number* [algorithm](#) *number*

**Description** List of prefix SIDs

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [segment-routing mpls sid-database prefix-sid prefix \(ipv4-prefix | ipv6-prefix\)](#) [sid-label-value](#) *number* [multi-topology-id](#) *number* [algorithm](#) *number*

**Tree** [prefix-sid](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## prefix [\(ipv4-prefix | ipv6-prefix\)](#)

**Description** The IPv4 or IPv6 prefix associated with the SID.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [segment-routing mpls sid-database prefix-sid prefix \(ipv4-prefix | ipv6-prefix\)](#) [sid-label-value](#) *number* [multi-topology-id](#) *number* [algorithm](#) *number*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## sid-label-value *number*

**Description** The MPLS label value associated with the SID.

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [segment-routing mpls sid-database prefix-sid prefix \(ipv4-prefix | ipv6-prefix\)](#) [sid-label-value](#) *number* [multi-topology-id](#) *number* [algorithm](#) *number*

<b>Range</b>	16 to 1048575
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### multi-topology-id *number*

<b>Description</b>	The multi-topology ID that provided the prefix SID
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number multi-topology-id number algorithm number</a>
<b>Range</b>	0 to 4095
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### algorithm *number*

<b>Description</b>	Contains the identifier of the algorithm the router uses to compute the reachability of the prefix to which the Prefix-SID is associated
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number multi-topology-id number algorithm number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### active *boolean*

<b>Description</b>	When false, the prefix SID is inactive. It could be inactive for any of these reasons:
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number multi-topology-id number algorithm number active boolean</a>
<b>Tree</b>	<a href="#">active</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**prefix-conflict** *boolean*

<b>Description</b>	Reads true when the prefix SID entry is involved in a prefix conflict within the scope of this IS-IS instance. This occurs when there are multiple entries for the same (prefix, multi-topology-id, algorithm). All the conflicting entries become inactive except for the one with the smallest sid-index.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">prefix-conflict</a> <i>boolean</i>
<b>Tree</b>	<a href="#">prefix-conflict</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sid-conflict** *boolean*

<b>Description</b>	Reads true when the prefix SID entry is involved in a SID conflict within the scope of this IS-IS instance. This occurs when the same SID has been assigned to different prefixes after first eliminating entries that have lost the prefix-conflict comparison. All entries involved in a SID conflict that do not have the absolute lowest 'preference' value become inactive. In the SRL implementation SID entries associated with interfaces of this IS-IS instance are considered to have a lower numerical preference than remote prefix-sid entries. If there are still SID conflicts then all the remaining conflicting entries become inactive except for the one with the smallest sid-index.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">sid-conflict</a> <i>boolean</i>
<b>Tree</b>	<a href="#">sid-conflict</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sid-out-of-range** *boolean*

<b>Description</b>	Reads true when a received prefix SID from another router has a SID index or label value that is not within the locally defined SRGB range of the network instance; the prefix SID entry will be inactive.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">sid-out-of-range</a> <i>boolean</i>
<b>Tree</b>	<a href="#">sid-out-of-range</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### source-router system-id *string* level-number *number*

<b>Description</b>	The ISIS routers that provided the prefix SID. (Multiple in the case of redistribution.)
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> segment-routing mpls sid-database prefix-sid prefix ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) sid-label-value <i>number</i> multi-topology-id <i>number</i> algorithm <i>number</i> source-router system-id <i>string</i> level-number <i>number</i>
<b>Tree</b>	source-router
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### system-id *string*

<b>Description</b>	The system-id of an ISIS router that originated or redistributed the prefix SID
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> segment-routing mpls sid-database prefix-sid prefix ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) sid-label-value <i>number</i> multi-topology-id <i>number</i> algorithm <i>number</i> source-router system-id <i>string</i> level-number <i>number</i>
<b>String Length</b>	14
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### level-number *number*

<b>Description</b>	The level of the LSP that advertises the prefix SID
<b>Context</b>	network-instance name <i>string</i> protocols isis instance name <i>string</i> segment-routing mpls sid-database prefix-sid prefix ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) sid-label-value <i>number</i> multi-topology-id <i>number</i> algorithm <i>number</i> source-router system-id <i>string</i> level-number <i>number</i>
<b>Range</b>	1 to 2
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**flags**

<b>Description</b>	Flags that characterize the prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">flags</a>
<b>Tree</b>	<a href="#">flags</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**explicit-null** *boolean*

<b>Description</b>	If set any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID that has an Explicit NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">flags</a> <a href="#">explicit-null</a> <i>boolean</i>
<b>Tree</b>	<a href="#">explicit-null</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local** *boolean*

<b>Description</b>	If set, then the value/index carried by the Prefix-SID has local significance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">flags</a> <a href="#">local</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**node-sid** *boolean*

<b>Description</b>	If set the prefix SID refers to the router identified by the prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-</a>

	<a href="#">value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router</a> <a href="#">system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">flags</a> <a href="#">node-sid</a> <i>boolean</i>
<b>Tree</b>	<a href="#">node-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### penultimate-hop-popping *boolean*

<b>Description</b>	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">flags</a> <a href="#">penultimate-hop-popping</a> <i>boolean</i>
<b>Tree</b>	<a href="#">penultimate-hop-popping</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### re-advertised *boolean*

<b>Description</b>	If set the prefix to which this Prefix-SID is attached was propagated from another level or from another protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">flags</a> <a href="#">re-advertised</a> <i>boolean</i>
<b>Tree</b>	<a href="#">re-advertised</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### local-system *boolean*

<b>Description</b>	True when the system ID belongs to the local system.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">multi-topology-id</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">source-router system-id</a> <i>string</i> <a href="#">level-number</a> <i>number</i> <a href="#">local-system</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local-system</a>
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### static-label-block *reference*

**Description** Reference to a static label block to use an SRLB.  
Configuration of this label block is mandatory in order to assign static adjacency SID labels.  
This label block is advertised as an SRLB in the router capabilities TLV.

**Context** [network-instance name string protocols isis instance name string segment-routing mpls static-label-block reference](#)

**Tree** [static-label-block](#)

**Reference** [system mpls label-ranges static name string](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### static-label-block-status *keyword*

**Description** Status of the label block.  
The label block may show as unavailable if there is pending cleanup.

**Context** [network-instance name string protocols isis instance name string segment-routing mpls static-label-block-status keyword](#)

**Tree** [static-label-block-status](#)

**Options**

- available
- unavailable

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### statistics

**Description** Instance level statistics

**Context** [network-instance name string protocols isis instance name string statistics](#)

**Tree** [statistics](#)

**Configurable** False

**Platforms** Supported on all platforms

### **last-partial-spf** *string*

**Description** The elapsed time since the last time a partial SPF run was run on either the L1 or L2 LSDB

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [statistics last-partial-spf](#) *string*

**Tree** [last-partial-spf](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **last-spf** *string*

**Description** The elapsed time since the last time a full SPF run was run on either the L1 or L2 LSDB

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [statistics last-spf](#) *string*

**Tree** [last-spf](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** Supported on all platforms

### **partial-spf-runs** *number*

**Description** The number of times a partial SPF run has been performed on either the L1 or L2 LSDB since the IS-IS manager restarted

**Context** [network-instance name](#) *string* [protocols isis instance name](#) *string* [statistics partial-spf-runs](#) *number*

**Tree** [partial-spf-runs](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

**pdu pdu-name keyword**

<b>Description</b>	List of PDUs processed by the IS-IS instance since the IS-IS manager restarted
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string statistics pdu pdu-name keyword</a>
<b>Tree</b>	<a href="#">pdu</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pdu-name keyword**

<b>Description</b>	The PDU type that was processed
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string statistics pdu pdu-name keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• LSP Link State PDU</li> <li>• IIH IS-to-IS Hello PDU</li> <li>• CSNP Complete Sequence Number PDU</li> <li>• PSNP Partial Sequence Number PDU</li> <li>• Unknown Unknown PDU type</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dropped number**

<b>Description</b>	The number of PDUs that were received and dropped
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string statistics pdu pdu-name keyword dropped number</a>
<b>Tree</b>	<a href="#">dropped</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**processed** *number*

<b>Description</b>	The number of PDUs that were received and processed
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">statistics pdu pdu-name</a> <i>keyword</i> <a href="#">processed</a> <i>number</i>
<b>Tree</b>	<a href="#">processed</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**received** *number*

<b>Description</b>	The number of PDUs that were received
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">statistics pdu pdu-name</a> <i>keyword</i> <a href="#">received</a> <i>number</i>
<b>Tree</b>	<a href="#">received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sent** *number*

<b>Description</b>	The number of PDUs that were transmitted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">statistics pdu pdu-name</a> <i>keyword</i> <a href="#">sent</a> <i>number</i>
<b>Tree</b>	<a href="#">sent</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**spf-runs** *number*

<b>Description</b>	The number of times a full SPF run has been performed on either the L1 or L2 LSDB since the IS-IS manager restarted
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">statistics spf-runs</a> <i>number</i>
<b>Tree</b>	<a href="#">spf-runs</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## timers

<b>Description</b>	Container for IS-IS timers applicable at the instance level
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## Isp-generation

<b>Description</b>	Container with options for specifying LSP generation timer values
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string timers lsp-generation</a>
<b>Tree</b>	<a href="#">lsp-generation</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## initial-wait *number*

<b>Description</b>	Time interval between the detection of topology change and when the new LSP is generated.  The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string timers lsp-generation initial-wait number</a>
<b>Tree</b>	<a href="#">initial-wait</a>
<b>Range</b>	10 to 100000
<b>Default</b>	10
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-wait** *number*

<b>Description</b>	Specifies the maximum interval between two consecutive generations of an LSP.  The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">timers lsp-generation max-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">max-wait</a>
<b>Range</b>	10 to 120000
<b>Default</b>	5000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**second-wait** *number*

<b>Description</b>	Time interval between the the first and second LSP generation.  The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">timers lsp-generation second-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">second-wait</a>
<b>Range</b>	10 to 100000
<b>Default</b>	1000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**lsp-lifetime** *number*

<b>Description</b>	Time interval in seconds that the LSPs originated by this IS (router) remain valid in the LSDB before they must be refreshed or else they are purged.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">timers lsp-lifetime</a> <i>number</i>
<b>Tree</b>	<a href="#">lsp-lifetime</a>

<b>Range</b>	350 to 65535
<b>Default</b>	1200
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## Isp-refresh

<b>Description</b>	Configure LSP refresh timers.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string timers lsp-refresh</a>
<b>Tree</b>	<a href="#">lsp-refresh</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## half-lifetime *boolean*

<b>Description</b>	When set to true, the LSP refresh interval is half the lsp-lifetime
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string timers lsp-refresh half-lifetime boolean</a>
<b>Tree</b>	<a href="#">half-lifetime</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## interval *number*

<b>Description</b>	Time interval in seconds since the last advertisement of its LSP when the router attempts to refresh the LSP. Must not exceed 90% of the lsp-lifetime. This value is ignored when half-lifetime is set to true.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string timers lsp-refresh interval number</a>
<b>Tree</b>	<a href="#">interval</a>
<b>Range</b>	150 to 65535
<b>Default</b>	600
<b>Units</b>	seconds
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## spf

**Description** Container with options for specifying SPF timer values

**Context** [network-instance name string protocols isis instance name string timers spf](#)

**Tree** [spf](#)

**Configurable** True

**Platforms** Supported on all platforms

## initial-wait *number*

**Description** Time interval between the detection of topology change and when the SPF algorithm runs.  
The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms

**Context** [network-instance name string protocols isis instance name string timers spf initial-wait number](#)

**Tree** [initial-wait](#)

**Range** 10 to 100000

**Default** 1000

**Units** milliseconds

**Configurable** True

**Platforms** Supported on all platforms

## max-wait *number*

**Description** Specifies the maximum interval between two consecutive SPF calculations in milliseconds.  
The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms

**Context** [network-instance name string protocols isis instance name string timers spf max-wait number](#)

**Tree** [max-wait](#)

**Range** 10 to 120000

**Default** 10000



<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **second-wait** *number*

<b>Description</b>	Time interval between the the first and second SPF run. The timer granularity is 100 ms. Timer values are rounded down to the nearest granularity, for example a configured value of 550 ms is internally rounded down to 500 ms
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">timers spf second-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">second-wait</a>
<b>Range</b>	10 to 100000
<b>Default</b>	1000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace-options**

<b>Description</b>	Instance level debug trace options for IS-IS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace** *keyword*

<b>Description</b>	List of tracing options
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">trace-options</a> <a href="#">trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">adjacencies</a></li> <li>• <a href="#">graceful-restart</a></li> <li>• <a href="#">interfaces</a></li> </ul>

- packets-all
- packets-p2p-hello
- packets-l1-hello
- packets-l2-hello
- packets-l1-psnp
- packets-l2-psnp
- packets-l1-csnp
- packets-l2-csnp
- packets-l1-lsp
- packets-l2-lsp
- routes
- summary-addresses

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## transport

<b>Description</b>	Enter the transport context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">transport</a>
<b>Tree</b>	<a href="#">transport</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## **lsp-mtu-size** *number*

<b>Description</b>	Sets the maximum size of LSPs generated by this router
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">transport</a> <a href="#">lsp-mtu-size</a> <i>number</i>
<b>Tree</b>	<a href="#">lsp-mtu-size</a>
<b>Range</b>	490 to 9490
<b>Default</b>	1492
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**weighted-ecmp**

<b>Description</b>	Enter the weighted-ecmp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">weighted-ecmp</a>
<b>Tree</b>	<a href="#">weighted-ecmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	<p>Setting enable triggers weighted ECMP programming for all eligible multipath IS-IS routes associated with the instance</p> <p>An IS-IS route is eligible for weighted ECMP if all the next-hop interfaces in the multipath set have a load-balancing-weight other than 'none'.</p> <p>When weighted ECMP is disabled in an IS-IS instance all IS-IS multipath routes are programmed as normal ECMP, even if some or all of the next-hop interfaces in any particular multipath set have a load-balancing-weight other than 'none'.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">weighted-ecmp admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-ecmp-hash-buckets-per-next-hop-group** *number*

<b>Description</b>	<p>Specifies the maximum number of ECMP hash buckets per next-hop-group. Weighted ECMP weights are normalized based on this number of hash buckets.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">weighted-ecmp max-ecmp-hash-buckets-per-next-hop-group</a> <i>number</i>
<b>Tree</b>	<a href="#">max-ecmp-hash-buckets-per-next-hop-group</a>
<b>Range</b>	1 to 128
<b>Default</b>	128

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## non-stop-forwarding

<b>Description</b>	Enter the non-stop-forwarding context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis non-stop-forwarding</a>
<b>Tree</b>	<a href="#">non-stop-forwarding</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## admin-state *keyword*

<b>Description</b>	Used to administratively enable or disable the IS-IS non-stop forwarding functionality.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis non-stop-forwarding admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## ldp

<b>Description</b>	Container for LDP configuration and state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp</a>
<b>Tree</b>	<a href="#">ldp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable LDP.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**discovery**

<b>Description</b>	Neighbor discovery configuration and operational state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery</a>
<b>Tree</b>	<a href="#">discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**interfaces**

<b>Description</b>	The complete set of interfaces used for LDP Basic Discovery.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces</a>
<b>Tree</b>	<a href="#">interfaces</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-holdtime** *number*

<b>Description</b>	The time interval for which a LDP link Hello adjacency is maintained in the absence of link Hello messages from the LDP neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces hello-holdtime</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-holdtime</a>
<b>Range</b>	15 to 3600
<b>Default</b>	15
<b>Units</b>	seconds

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### hello-interval *number*

<b>Description</b>	The interval between consecutive LDP link Hello messages used in basic LDP discovery
<b>Context</b>	<a href="#">network-instance name string protocols ldp discovery interfaces hello-interval number</a>
<b>Tree</b>	<a href="#">hello-interval</a>
<b>Range</b>	5 to 1200
<b>Default</b>	5
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### interface [name string](#)

<b>Description</b>	List of LDP interfaces used for LDP Basic Discovery.
<b>Context</b>	<a href="#">network-instance name string protocols ldp discovery interfaces interface name string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### name *string*

<b>Description</b>	Reference to a specific subinterface that is bound to the network instance
<b>Context</b>	<a href="#">network-instance name string protocols ldp discovery interfaces interface name string</a>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-holdtime** *number*

<b>Description</b>	The time interval for which a LDP link Hello adjacency is maintained in the absence of link Hello messages from the LDP neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">hello-holdtime</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-holdtime</a>
<b>Range</b>	15 to 3600
<b>Default</b>	15
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-interval** *number*

<b>Description</b>	The interval between consecutive LDP link Hello messages used in basic LDP discovery
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">hello-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-interval</a>
<b>Range</b>	5 to 1200
<b>Default</b>	5
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv4**

<b>Description</b>	Enter the ipv4 context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4</a>
<b>Tree</b>	<a href="#">ipv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable LDP discovery for IPv4 on a particular interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-adjacencies**

<b>Description</b>	Container with a list of hello adjacencies.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies</a>
<b>Tree</b>	<a href="#">hello-adjacencies</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**adjacency** [lsr-id](#) *reference* [label-space-id](#) *reference*

<b>Description</b>	List of hello adjacencies.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency</a> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">adjacency</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**lsr-id** *reference*

<b>Description</b>	The LSR ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency</a> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i>



<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-space-id *reference*

<b>Description</b>	The Label Space ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### hello-holdtime

<b>Description</b>	Container for hello holdtime state information.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">hello-holdtime</a>
<b>Tree</b>	<a href="#">hello-holdtime</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### negotiated *number*

<b>Description</b>	The holdtime negotiated between this LSR and the adjacent LSR.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">hello-holdtime</a> <a href="#">negotiated</a> <i>number</i>
<b>Tree</b>	<a href="#">negotiated</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**neighbor-proposed** *number*

<b>Description</b>	The holdtime value learned from the adjacent LSR.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">hello-holdtime neighbor-proposed</a> <i>number</i>
<b>Tree</b>	<a href="#">neighbor-proposed</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**remaining** *number*

<b>Description</b>	The time remaining until the holdtime timer expires.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">hello-holdtime remaining</a> <i>number</i>
<b>Tree</b>	<a href="#">remaining</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-received** *number*

<b>Description</b>	The number of Hello messages received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">hello-received</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-sent** *number*

<b>Description</b>	The number of Hello messages sent.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 hello-adjacencies adjacency lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">hello-sent</a> <i>number</i>

<b>Tree</b>	<a href="#">hello-sent</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### local-address *string*

<b>Description</b>	Local address of the hello adjacency.
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols ldp discovery interfaces interface name <i>string</i></a> <a href="#">ipv4 hello-adjacencies adjacency lsr-id <i>reference</i></a> <a href="#">label-space-id <i>reference</i></a> <a href="#">local-address <i>string</i></a>
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### remote-address *string*

<b>Description</b>	Remote address of the hello adjacency.
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols ldp discovery interfaces interface name <i>string</i></a> <a href="#">ipv4 hello-adjacencies adjacency lsr-id <i>reference</i></a> <a href="#">label-space-id <i>reference</i></a> <a href="#">remote-address <i>string</i></a>
<b>Tree</b>	<a href="#">remote-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### last-oper-state-change *string*

<b>Description</b>	The last time when the IPv4 oper-state changed.
<b>Context</b>	<a href="#">network-instance name <i>string</i></a> <a href="#">protocols ldp discovery interfaces interface name <i>string</i></a> <a href="#">ipv4 last-oper-state-change <i>string</i></a>
<b>Tree</b>	<a href="#">last-oper-state-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-down-reason** *keyword*

<b>Description</b>	Reason for the LDP interface being down from an IPv4 perspective.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ldp-interface-admin-down</li> <li>• ldp-instance-oper-down</li> <li>• network-instance-subinterface-down</li> <li>• out-of-resources</li> <li>• unknown</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-state** *keyword*

<b>Description</b>	Operational state of IPv4 on the LDP interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up</li> <li>• down</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**statistics**

<b>Description</b>	Statistics objects.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-message-errors**

<b>Description</b>	Counters for received Hello message errors
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">Ipd</a> <a href="#">discovery</a> <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">hello-message-errors</a>
<b>Tree</b>	<a href="#">hello-message-errors</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**bad-message-length** *number*

<b>Description</b>	The number of Hello messages received with a bad message length
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">Ipd</a> <a href="#">discovery</a> <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">hello-message-errors</a> <a href="#">bad-message-length</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-message-length</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**bad-pdu-length** *number*

<b>Description</b>	The number of Hello messages received with a bad PDU length
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">Ipd</a> <a href="#">discovery</a> <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">hello-message-errors</a> <a href="#">bad-pdu-length</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-pdu-length</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**bad-protocol-version** *number*

<b>Description</b>	The number of Hello messages received with a bad protocol version
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">Ipd</a> <a href="#">discovery</a> <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">hello-message-errors</a> <a href="#">bad-protocol-version</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-protocol-version</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**malformed-tlv-value** *number*

<b>Description</b>	The number of Hello messages received with a malformed TLV value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 statistics hello-message-errors malformed-tlv-value</a> <i>number</i>
<b>Tree</b>	<a href="#">malformed-tlv-value</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-received** *number*

<b>Description</b>	The number of Hello messages received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 statistics hello-received</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hello-sent** *number*

<b>Description</b>	The number of Hello messages sent.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 statistics hello-sent</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-sent</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**trace-options**

<b>Description</b>	Configure event/packet tracing for one specific LDP interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### trace keyword

**Description** Specifies the trace information to be captured.

**Context** [network-instance name string protocols ldp discovery interfaces interface name string ipv4 trace-options trace keyword](#)

**Tree** [trace](#)

**Options**

- all  
Trace all events and packets
- events-discovery  
Trace session related events
- messages-hello  
Trace Hello packets
- messages-hello-detail  
Trace LDP Hello packets with detailed output

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### trace-options

**Description** Configure event/packet tracing for all LDP interfaces.

**Context** [network-instance name string protocols ldp discovery interfaces trace-options](#)

**Tree** [trace-options](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### trace keyword

**Description** Specifies the trace information to be captured.

**Context** [network-instance name string protocols ldp discovery interfaces trace-options trace keyword](#)

**Tree** [trace](#)

**Options**

- all  
Trace all events and packets
- events-discovery

- Trace session related events
  - messages-hello
- Trace Hello packets
  - messages-hello-detail
- Trace LDP Hello packets with detailed output

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **dynamic-label-block** *reference*

<b>Description</b>	Reference to a dynamic label block
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp dynamic-label-block</a> <i>reference</i>
<b>Tree</b>	<a href="#">dynamic-label-block</a>
<b>Reference</b>	<a href="#">system mpls label-ranges dynamic name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **dynamic-label-block-status** *keyword*

<b>Description</b>	Status of the label block. The label block may show as unavailable if there is pending cleanup.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp dynamic-label-block-status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">dynamic-label-block-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• available</li> <li>• unavailable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **graceful-restart**

<b>Description</b>	Attributes for graceful restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### helper-enable *boolean*

**Description** Enable or disable graceful restart as a helper.

**Context** [network-instance name](#) *string* [protocols ldp graceful-restart helper-enable](#) *boolean*

**Tree** [helper-enable](#)

**Default** false

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### max-reconnect-time *number*

**Description** Specifies the maximum time interval, in seconds, that this router is willing to wait for the remote LDP peer to reconnect after an LDP communication failure.

**Context** [network-instance name](#) *string* [protocols ldp graceful-restart max-reconnect-time](#) *number*

**Tree** [max-reconnect-time](#)

**Range** 10 to 1800

**Default** 120

**Units** seconds

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### max-recovery-time *number*

**Description** Specifies the maximum time interval, in seconds, that this router is willing to preserve its MPLS forwarding state after receiving the Initialization message from the restarted LDP peer.

**Context** [network-instance name](#) *string* [protocols ldp graceful-restart max-recovery-time](#) *number*

**Tree** [max-recovery-time](#)

**Range** 30 to 3600

**Default** 120

**Units** seconds

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## ipv4

**Description** Container for configuration and state related to the IPv4 address family.

**Context** [network-instance name](#) *string* [protocols ldp ipv4](#)

**Tree** [ipv4](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## bindings

**Description** LDP address and label binding information.

**Context** [network-instance name](#) *string* [protocols ldp ipv4 bindings](#)

**Tree** [bindings](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## advertised-address

**Description** Enter the advertised-address context

**Context** [network-instance name](#) *string* [protocols ldp ipv4 bindings advertised-address](#)

**Tree** [advertised-address](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## peer [lsr-id reference](#) [label-space-id reference](#)

**Description** List of LDP peers towards which IPv4 address bindings have been sent.

**Context** [network-instance name](#) *string* [protocols ldp ipv4 bindings advertised-address](#)  
[peer lsr-id reference](#) [label-space-id reference](#)

**Tree** [peer](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**lsr-id reference**

<b>Description</b>	The LSR ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-address</a> <a href="#">peer lsr-id reference</a> <a href="#">label-space-id reference</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-space-id reference**

<b>Description</b>	The Label Space ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-address</a> <a href="#">peer lsr-id reference</a> <a href="#">label-space-id reference</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ip-address string**

<b>Description</b>	The list of IPv4 address bindings sent to the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-address</a> <a href="#">peer lsr-id reference</a> <a href="#">label-space-id reference</a> <a href="#">ip-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ip-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**advertised-prefix-fecs** [fec](#) *string* [lsr-id reference](#) [label-space-id reference](#)

<b>Description</b>	List of IPv4 FEC-label bindings advertised to LDP peers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-prefix-fecs</a> <a href="#">fec</a> <i>string</i> <a href="#">lsr-id reference</a> <a href="#">label-space-id reference</a>
<b>Tree</b>	<a href="#">advertised-prefix-fecs</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fec string**

<b>Description</b>	The prefix FEC value in the FEC-label binding, advertised in a Label Mapping message sent to a peer.
<b>Context</b>	<a href="#">network-instance name string protocols ldp ipv4 bindings advertised-prefix-fecs fec string lsr-id reference label-space-id reference</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**lsr-id reference**

<b>Description</b>	The LSR ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name string protocols ldp ipv4 bindings advertised-prefix-fecs fec string lsr-id reference label-space-id reference</a>
<b>Reference</b>	<a href="#">network-instance name string protocols ldp peers peer lsr-id string label-space-id number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-space-id reference**

<b>Description</b>	The Label Space ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name string protocols ldp ipv4 bindings advertised-prefix-fecs fec string lsr-id reference label-space-id reference</a>
<b>Reference</b>	<a href="#">network-instance name string protocols ldp peers peer lsr-id string label-space-id number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**egress-lsr-fec boolean**

<b>Description</b>	When set true, the router is the egress LSR for the FEC (the FEC is locally originated).
<b>Context</b>	<a href="#">network-instance name string protocols ldp ipv4 bindings advertised-prefix-fecs fec string lsr-id reference label-space-id reference egress-lsr-fec boolean</a>
<b>Tree</b>	<a href="#">egress-lsr-fec</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label** (*number* | *keyword*)

<b>Description</b>	Advertised label value.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <b>label</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">label</a>
<b>Range</b>	16 to 1048575
<b>Options</b>	<ul style="list-style-type: none"> <li>• IPV4_EXPLICIT_NULL</li> <li>• IPV6_EXPLICIT_NULL</li> <li>• IMPLICIT_NULL</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-status** *keyword*

<b>Description</b>	Enter the label-status context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <b>label-status</b> <i>keyword</i>
<b>Tree</b>	<a href="#">label-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• released</li> <li>• withdrawn</li> <li>• withdraw-pending</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-type** *keyword*

<b>Description</b>	The label type of the advertised label.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings advertised-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <b>label-type</b> <i>keyword</i>
<b>Tree</b>	<a href="#">label-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• pop An advertised label that is programmed with a POP operation.</li> <li>• swap An advertised label that is programmed with a SWAP operation.</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### received-address

<b>Description</b>	Enter the received-address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-address</a>
<b>Tree</b>	<a href="#">received-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### peer [lsr-id reference](#) [label-space-id reference](#)

<b>Description</b>	List of LDP peers from which IPv4 address bindings have been received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-address</a> <a href="#">peer lsr-id reference</a> <a href="#">label-space-id reference</a>
<b>Tree</b>	<a href="#">peer</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### [lsr-id reference](#)

<b>Description</b>	The LSR ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-address</a> <a href="#">peer lsr-id reference</a> <a href="#">label-space-id reference</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### [label-space-id reference](#)

<b>Description</b>	The Label Space ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-address</a> <a href="#">peer lsr-id reference</a> <a href="#">label-space-id reference</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ip-address** *string*

<b>Description</b>	The list of IPv4 address bindings received from the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-address peer lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">ip-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ip-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**received-prefix-fecs** [fec](#) *string* [lsr-id](#) *reference* [label-space-id](#) *reference*

<b>Description</b>	List of IPv4 FEC-label bindings received from LDP peers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">received-prefix-fecs</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fec** *string*

<b>Description</b>	The prefix FEC value in the FEC-label binding, learned in a Label Mapping message received from a peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**lsr-id** *reference*

<b>Description</b>	The LSR ID of the peer, as a portion of the peer LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-space-id *reference*

**Description** The Label Space ID of the peer, as a portion of the peer LDP ID.

**Context** [network-instance name](#) *string* [protocols ldp ipv4 bindings received-prefix-fecs fec](#) *string* [lsr-id reference](#) [label-space-id reference](#)

**Reference** [network-instance name](#) *string* [protocols ldp peers peer lsr-id](#) *string* [label-space-id](#) *number*

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### ingress-lsr-fec *boolean*

**Description** When set true, the router is an ingress LSR for the FEC.

**Context** [network-instance name](#) *string* [protocols ldp ipv4 bindings received-prefix-fecs fec](#) *string* [lsr-id reference](#) [label-space-id reference](#) [ingress-lsr-fec](#) *boolean*

**Tree** [ingress-lsr-fec](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label (*number* | *keyword*)

**Description** Received label value.

**Context** [network-instance name](#) *string* [protocols ldp ipv4 bindings received-prefix-fecs fec](#) *string* [lsr-id reference](#) [label-space-id reference](#) [label](#) (*number* | *keyword*)

**Tree** [label](#)

**Range** 16 to 1048575

**Options**

- IPV4\_EXPLICIT\_NULL
- IPV6\_EXPLICIT\_NULL
- IMPLICIT\_NULL

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**next-hop** *index number*

<b>Description</b>	List of ECMP next-hops towards the LDP peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">next-hop index number</a>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**index number**

<b>Description</b>	Label ID index entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">next-hop index number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**interface** *string*

<b>Description</b>	The outgoing interface towards the LDP peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">next-hop index number</a> <a href="#">interface</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>String Length</b>	5 to 25
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**next-hop** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP next-hop towards the LDP peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">next-hop index number</a> <a href="#">next-hop</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**not-used-reason** *keyword*

<b>Description</b>	The reason why the label mapping is not being used in the dataplane.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">not-used-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">not-used-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>non-ipv4-host-fec</b> The received FEC is not a /32 IPv4 FEC prefix.</li> <li>• <b>exceeds-multipath-limit</b> The LDP multipath ECMP limit has been reached</li> <li>• <b>exceeds-fec-limit</b> The FEC limit has been reached</li> <li>• <b>fec-unresolved</b> The IP prefix FEC is unused because there is no resolving route matching the IP prefix</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used-in-forwarding** *boolean*

<b>Description</b>	Reads true if the label is used in forwarding and has been programmed for a push operation.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 bindings received-prefix-fecs fec</a> <i>string</i> <a href="#">lsr-id</a> <i>reference</i> <a href="#">label-space-id</a> <i>reference</i> <a href="#">used-in-forwarding</a> <i>boolean</i>
<b>Tree</b>	<a href="#">used-in-forwarding</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fec-resolution**

<b>Description</b>	Container with options for controlling IPv4 prefix FEC resolution
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 fec-resolution</a>
<b>Tree</b>	<a href="#">fec-resolution</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**longest-prefix** *boolean*

<b>Description</b>	When this is set to true IPv4 prefix FECs can be resolved by less-specific IPv4 routes in the route table, as long as the prefix bits of the route match the prefix bits of the FEC; the IP route with the longest prefix match is the route that is used to resolve the FEC.  When this is set to false, IPv4 prefix FECs can only be resolved by routes that are an exact match of the FEC in terms of prefix length.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 fec-resolution longest-prefix</a> <i>boolean</i>
<b>Tree</b>	<a href="#">longest-prefix</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**last-oper-state-change** *string*

<b>Description</b>	The last time that the IPv4 oper-state changed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 last-oper-state-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-oper-state-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-down-reason** *keyword*

<b>Description</b>	The reason for the LDP for IPv4 being operationally down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ldp-admin-disabled</li> <li>• mpls-admin-disabled</li> <li>• no-system-ipv4-address System IPv4 address is used as the LSR ID. If this dependency is missing LDP is down.</li> <li>• net-instance-mgr-down</li> <li>• label-block-unavailable</li> <li>• no-resource</li> </ul>

- Memory allocation failure
- unknown
- Other failure reason

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-state** *keyword***Description**

The operational state of LDP for IPv4

**Context**[network-instance name](#) *string* [protocols ldp ipv4 oper-state](#) *keyword***Tree**[oper-state](#)**Options**

- up  
Component or process is operational
- down  
Component or process is not operational
- empty  
Component slot is empty
- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **oper-up-to-down-transitions** *number*

<b>Description</b>	The number of times the oper state for IPv4 has transitioned from up to down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp ipv4 oper-up-to-down-transitions</a> <i>number</i>
<b>Tree</b>	<a href="#">oper-up-to-down-transitions</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **lsr-id** *string*

<b>Description</b>	Returns the value that is being used as the LDP LSR ID. Currently, this is always the router ID of the default network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp lsr-id</a> <i>string</i>
<b>Tree</b>	<a href="#">lsr-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **multipath**

<b>Description</b>	Container with options to configure load-balancing over equal-cost paths
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp multipath</a>
<b>Tree</b>	<a href="#">multipath</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**max-paths** *number*

<b>Description</b>	Specifies the maximum number of next-hops used for load-balancing toward towards a given FEC
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">multipath</a> <a href="#">max-paths</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">max-paths</a>
<b>Range</b>	1 to 64
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peers**

<b>Description</b>	Configuration and state related to peers
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a>
<b>Tree</b>	<a href="#">peers</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peer** [lsr-id](#) [string](#) [label-space-id](#) *number*

<b>Description</b>	List of peers.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <a href="#">string</a> <a href="#">label-space-id</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">peer</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**lsr-id** *string*

<b>Description</b>	The LSR ID of the peer, to identify the globally unique LSR. This is the first four octets of the LDP ID. This leaf is used together with the leaf 'label-space-id' to form the LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <a href="#">string</a> <a href="#">label-space-id</a> <a href="#">number</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-space-id** *number*

<b>Description</b>	The Label Space ID of the peer, to identify a specific label space within the LSR. This is the last two octets of the LDP ID. This leaf is used together with the leaf 'lsr-id' to form the LDP ID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**adjacency-type** *keyword*

<b>Description</b>	The value indicates the adjacency type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">adjacency-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">adjacency-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• link</li> <li>• targeted</li> <li>• both</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**end-of-lib**

<b>Description</b>	Container with state information pertaining to sent and received End of LIB markers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">end-of-lib</a>
<b>Tree</b>	<a href="#">end-of-lib</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv4-prefix-fecs**

<b>Description</b>	Enter the ipv4-prefix-fecs context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">end-of-lib</a> <a href="#">ipv4-prefix-fecs</a>
<b>Tree</b>	<a href="#">ipv4-prefix-fecs</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**received** *boolean*

<b>Description</b>	When this is true, an End-of-LIB marker was received from the LDP peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">end-of-lib ipv4-prefix-fecs</a> <a href="#">received</a> <i>boolean</i>
<b>Tree</b>	<a href="#">received</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sent** *boolean*

<b>Description</b>	When this is true, an End-of-LIB marker was sent to the LDP peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">end-of-lib ipv4-prefix-fecs</a> <a href="#">sent</a> <i>boolean</i>
<b>Tree</b>	<a href="#">sent</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fec-limit** *number*

<b>Description</b>	The maximum number of FECs of all types combined that will be accepted from the peer. The value 0 implies no limit.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">fec-limit</a> <i>number</i>
<b>Tree</b>	<a href="#">fec-limit</a>
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fec-limit-exceeded** *boolean*

<b>Description</b>	Reads true when the peer has sent more FECs than the configured limit.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">fec-limit-exceeded</a> <i>boolean</i>
<b>Tree</b>	<a href="#">fec-limit-exceeded</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### graceful-restart

<b>Description</b>	Graceful restart operational state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### peer-reconnect-time *number*

<b>Description</b>	The requested reconnect time.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">graceful-restart</a> <a href="#">peer-reconnect-time</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-reconnect-time</a>
<b>Range</b>	10 to 1800
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### peer-recovery-time *number*

<b>Description</b>	The requested recovery time.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">graceful-restart</a> <a href="#">peer-recovery-time</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-recovery-time</a>
<b>Range</b>	30 to 3600
<b>Default</b>	120
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peer-restarting** *boolean*

<b>Description</b>	If true, the peer is currently in the process of restarting
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">graceful-restart peer-restarting</a> <i>boolean</i>
<b>Tree</b>	<a href="#">peer-restarting</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-advertisement-mode**

<b>Description</b>	Label advertisement mode state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">label-advertisement-mode</a>
<b>Tree</b>	<a href="#">label-advertisement-mode</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**negotiated** *keyword*

<b>Description</b>	Negotiated Label Advertisement Mode.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">label-advertisement-mode negotiated</a> <i>keyword</i>
<b>Tree</b>	<a href="#">negotiated</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">downstream-unsolicited</a> Downstream Unsolicited</li> <li>• <a href="#">downstream-on-demand</a> Downstream on Demand</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**last-oper-state-change** *string*

<b>Description</b>	Last time the peer state changed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">last-oper-state-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-oper-state-change</a>

<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## overload

<b>Description</b>	Overload state of the session
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <b>overload</b>
<b>Tree</b>	<a href="#">overload</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## local-router-is-overloaded *boolean*

<b>Description</b>	This router transmitted an overload TLV requesting that the peer stop advertising new FECs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">overload local-router-is-overloaded</a> <i>boolean</i>
<b>Tree</b>	<a href="#">local-router-is-overloaded</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## peer-is-overloaded *boolean*

<b>Description</b>	The peer has sent an overload TLV to this router requesting that we stop advertising new FECs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">overload peer-is-overloaded</a> <i>boolean</i>
<b>Tree</b>	<a href="#">peer-is-overloaded</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## received-capabilities

<b>Description</b>	Capabilities signalled by the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <b>received-capabilities</b>

<b>Tree</b>	<a href="#">received-capabilities</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **dual-stack-capability** *boolean*

<b>Description</b>	Dual stack capability. TLV 0x0701
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">dual-stack-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">dual-stack-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **dynamic-capability** *boolean*

<b>Description</b>	Dynamic capability advertisement capability. Indicates support for Capability messages. TLV 0x0506
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">dynamic-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">dynamic-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **entropy-label-capability** *boolean*

<b>Description</b>	Entropy label capability. TLV 0x0206
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">entropy-label-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">entropy-label-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **graceful-restart-capability** *boolean*

<b>Description</b>	Fault tolerance protection TLV 0x0503
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">graceful-restart-capability</a> <i>boolean</i>

<b>Tree</b>	<a href="#">graceful-restart-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **make-before-break-capability** *boolean*

<b>Description</b>	Make before break capability. TLV 0x050A
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">make-before-break-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">make-before-break-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **multipoint-to-multipoint-capability** *boolean*

<b>Description</b>	Multipoint to multipoint FEC capability. TLV 0x0509
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">multipoint-to-multipoint-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">multipoint-to-multipoint-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **nokia-vendor-overload-capability** *boolean*

<b>Description</b>	Overload capability
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">nokia-vendor-overload-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">nokia-vendor-overload-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **point-to-multipoint-capability** *boolean*

<b>Description</b>	Point to multipoint FEC capability. TLV 0x0508
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">point-to-multipoint-capability</a> <i>boolean</i>

<b>Tree</b>	<a href="#">point-to-multipoint-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### state-advertisement-control

<b>Description</b>	State advertisement control capability. TLV 0x050D
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">state-advertisement-control</a>
<b>Tree</b>	<a href="#">state-advertisement-control</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### ipv4-prefix-disable *boolean*

<b>Description</b>	Indicates desire to not receive IPv4 prefix FECs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">state-advertisement-control</a> <a href="#">ipv4-prefix-disable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv4-prefix-disable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### ipv6-prefix-disable *boolean*

<b>Description</b>	Indicates desire to not receive IPv6 prefix FECs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">state-advertisement-control</a> <a href="#">ipv6-prefix-disable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-prefix-disable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### p2p-pseudowire-fec-128-disable *boolean*

<b>Description</b>	Indicates desire to not receive P2P PW FEC 128 FECs
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">state-advertisement-control</a> <a href="#">p2p-pseudowire-fec-128-disable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">p2p-pseudowire-fec-128-disable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **p2p-pseudowire-fec-129-disable** *boolean*

<b>Description</b>	Indicates desire to not receive P2P PW FEC 129 FECs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">state-advertisement-control</a> <a href="#">p2p-pseudowire-fec-129-disable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">p2p-pseudowire-fec-129-disable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **unrecognized-notification-capability** *boolean*

<b>Description</b>	Unrecognized notification capability. TLV 0x0603
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">received-capabilities</a> <a href="#">unrecognized-notification-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">unrecognized-notification-capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **session-holdtime**

<b>Description</b>	Session holdtime state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">session-holdtime</a>
<b>Tree</b>	<a href="#">session-holdtime</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**negotiated** *number*

<b>Description</b>	Negotiated holdtime.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">session-holdtime negotiated</a> <i>number</i>
<b>Tree</b>	<a href="#">negotiated</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peer-proposed** *number*

<b>Description</b>	Peer holdtime.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">session-holdtime peer-proposed</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-proposed</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**remaining** *number*

<b>Description</b>	Remaining holdtime.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">session-holdtime remaining</a> <i>number</i>
<b>Tree</b>	<a href="#">remaining</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**session-state** *keyword*

<b>Description</b>	Representing the operational status of the LDP session.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">session-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">session-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>non-existent NON EXISTENT state. Transport disconnected.</li> </ul>



- initialized  
INITIALIZED state.
- openrec  
OPENREC state.
- opensent  
OPENSENT state.
- operational  
OPERATIONAL state.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## statistics

**Description**

Statistics objects.

**Context**[network-instance name](#) *string* [protocols ldp peers peer lsr-id](#) *string* [label-space-id](#) *number* [statistics](#)**Tree**[statistics](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## address-statistics

**Description**

Enter the address-statistics context

**Context**[network-instance name](#) *string* [protocols ldp peers peer lsr-id](#) *string* [label-space-id](#) *number* [statistics address-statistics](#)**Tree**[address-statistics](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## ipv4

**Description**

Enter the ipv4 context

**Context**[network-instance name](#) *string* [protocols ldp peers peer lsr-id](#) *string* [label-space-id](#) *number* [statistics address-statistics ipv4](#)**Tree**[ipv4](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**advertised-addresses** *number*

<b>Description</b>	The number of IPv4 addresses advertised to a peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics address-statistics ipv4 advertised-addresses</a> <i>number</i>
<b>Tree</b>	<a href="#">advertised-addresses</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**received-addresses** *number*

<b>Description</b>	The number of IPv4 addresses received from a peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics address-statistics ipv4 received-addresses</a> <i>number</i>
<b>Tree</b>	<a href="#">received-addresses</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fec-statistics**

<b>Description</b>	Enter the fec-statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics fec-statistics</a>
<b>Tree</b>	<a href="#">fec-statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ipv4-prefix**

<b>Description</b>	Enter the ipv4-prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics fec-statistics ipv4-prefix</a>
<b>Tree</b>	<a href="#">ipv4-prefix</a>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### advertised-fecs *number*

<b>Description</b>	The number of advertised IPv4 prefix FECs to a single peer or all peers. In the overall summary the same FEC prefix advertised to multiple peers counts as 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics fec-statistics ipv4-prefix advertised-fecs</a> <i>number</i>
<b>Tree</b>	<a href="#">advertised-fecs</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### received-fecs *number*

<b>Description</b>	The number of received IPv4 prefix FECs from a single peer or all peers. In the overall summary the same FEC prefix from different peers counts as 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics fec-statistics ipv4-prefix received-fecs</a> <i>number</i>
<b>Tree</b>	<a href="#">received-fecs</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### received-messages

<b>Description</b>	Inbound statistics.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages</a>
<b>Tree</b>	<a href="#">received-messages</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### address *number*

<b>Description</b>	The number of address messages sent or received.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">received-messages</a> <a href="#">address</a> <i>number</i>
<b>Tree</b>	<a href="#">address</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**address-withdraw** *number*

<b>Description</b>	The number of address-withdraw messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">received-messages</a> <a href="#">address-withdraw</a> <i>number</i>
<b>Tree</b>	<a href="#">address-withdraw</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**capability** *number*

<b>Description</b>	The number of messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">received-messages</a> <a href="#">capability</a> <i>number</i>
<b>Tree</b>	<a href="#">capability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**initialization** *number*

<b>Description</b>	The number of initialization messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">received-messages</a> <a href="#">initialization</a> <i>number</i>
<b>Tree</b>	<a href="#">initialization</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**keepalive** *number*

<b>Description</b>	The number of keepalive messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages keepalive</a> <i>number</i>
<b>Tree</b>	<a href="#">keepalive</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-abort-request** *number*

<b>Description</b>	The number of label-abort-request messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages label-abort-request</a> <i>number</i>
<b>Tree</b>	<a href="#">label-abort-request</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-mapping** *number*

<b>Description</b>	The number of label-mapping messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages label-mapping</a> <i>number</i>
<b>Tree</b>	<a href="#">label-mapping</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-release** *number*

<b>Description</b>	The number of label-release messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages label-release</a> <i>number</i>
<b>Tree</b>	<a href="#">label-release</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-request** *number*

<b>Description</b>	The number of label-request messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages label-request</a> <i>number</i>
<b>Tree</b>	<a href="#">label-request</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-withdraw** *number*

<b>Description</b>	The number of label-withdraw messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages label-withdraw</a> <i>number</i>
<b>Tree</b>	<a href="#">label-withdraw</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**notification** *number*

<b>Description</b>	The number of messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages notification</a> <i>number</i>
<b>Tree</b>	<a href="#">notification</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**total-messages** *number*

<b>Description</b>	The number of messages sent or received.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics received-messages total-messages</a> <i>number</i>
<b>Tree</b>	<a href="#">total-messages</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## sent-messages

<b>Description</b>	Outbound statistics.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages</a>
<b>Tree</b>	<a href="#">sent-messages</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## address *number*

<b>Description</b>	The number of address messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages address</a> <i>number</i>
<b>Tree</b>	<a href="#">address</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## address-withdraw *number*

<b>Description</b>	The number of address-withdraw messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages address-withdraw</a> <i>number</i>
<b>Tree</b>	<a href="#">address-withdraw</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**capability** *number*

<b>Description</b>	The number of messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages capability</a> <i>number</i>
<b>Tree</b>	<a href="#">capability</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**initialization** *number*

<b>Description</b>	The number of initialization messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages initialization</a> <i>number</i>
<b>Tree</b>	<a href="#">initialization</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**keepalive** *number*

<b>Description</b>	The number of keepalive messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages keepalive</a> <i>number</i>
<b>Tree</b>	<a href="#">keepalive</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-abort-request** *number*

<b>Description</b>	The number of label-abort-request messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages label-abort-request</a> <i>number</i>
<b>Tree</b>	<a href="#">label-abort-request</a>
<b>Default</b>	0



<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-mapping *number*

<b>Description</b>	The number of label-mapping messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages label-mapping</a> <i>number</i>
<b>Tree</b>	<a href="#">label-mapping</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-release *number*

<b>Description</b>	The number of label-release messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages label-release</a> <i>number</i>
<b>Tree</b>	<a href="#">label-release</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-request *number*

<b>Description</b>	The number of label-request messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages label-request</a> <i>number</i>
<b>Tree</b>	<a href="#">label-request</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-withdraw *number*

<b>Description</b>	The number of label-withdraw messages sent or received.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages label-withdraw</a> <i>number</i>
<b>Tree</b>	<a href="#">label-withdraw</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### notification *number*

<b>Description</b>	The number of messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages notification</a> <i>number</i>
<b>Tree</b>	<a href="#">notification</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### total-messages *number*

<b>Description</b>	The number of messages sent or received.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">statistics sent-messages total-messages</a> <i>number</i>
<b>Tree</b>	<a href="#">total-messages</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### tcp-transport

<b>Description</b>	Enter the tcp-transport context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">tcp-transport</a>
<b>Tree</b>	<a href="#">tcp-transport</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local-address** *string*

<b>Description</b>	Local address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">tcp-transport local-address</a> <i>string</i>
<b>Tree</b>	<a href="#">local-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local-port** *number*

<b>Description</b>	Local port number.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">tcp-transport local-port</a> <i>number</i>
<b>Tree</b>	<a href="#">local-port</a>
<b>Range</b>	0 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**remote-address** *string*

<b>Description</b>	Remote address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">tcp-transport remote-address</a> <i>string</i>
<b>Tree</b>	<a href="#">remote-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**remote-port** *number*

<b>Description</b>	Remote port number.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">tcp-transport remote-port</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-port</a>
<b>Range</b>	0 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**trace-options**

<b>Description</b>	Configure event/packet tracing for one specific session.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**trace keyword**

<b>Description</b>	Specifies the trace information to be captured.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i> <a href="#">trace-options</a> <a href="#">trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• all Trace all events and packets</li> <li>• events-all Trace all events</li> <li>• events-session Trace session related events</li> <li>• events-binding Trace binding related events</li> <li>• messages-all Trace all LDP messages</li> <li>• messages-all-detail Trace all LDP messages with detailed output</li> <li>• messages-initialization Trace LDP Initialization packets</li> <li>• messages-initialization-detail Trace LDP Initialization packets with detailed output</li> <li>• messages-keepalive Trace LDP Keepalive packets</li> <li>• messages-label Trace LDP Label Mapping, Label Request, Label Abort Request, Label Withdraw and Label Release packets</li> <li>• messages-label-detail</li> </ul>

Trace LDP Label Mapping, Label Request, Label Abort Request, Label Withdraw and Label Release packets with detailed output

- messages-hello

Trace Hello packets

- messages-hello-detail

Trace LDP Hello packets with detailed output

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **session-keepalive-holdtime** *number*

<b>Description</b>	The time interval after which an inactive LDP session terminates and the corresponding TCP session closes. Inactivity is defined as not receiving LDP packets from the peer.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers session-keepalive-holdtime</a> <i>number</i>
<b>Tree</b>	<a href="#">session-keepalive-holdtime</a>
<b>Range</b>	45 to 3600
<b>Default</b>	180
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **session-keepalive-interval** *number*

<b>Description</b>	The interval between successive transmissions of keepalive packets. Keepalive packets are only sent in the absence of other LDP packets transmitted over the LDP session.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers session-keepalive-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">session-keepalive-interval</a>
<b>Range</b>	15 to 1200
<b>Default</b>	60
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**trace-options**

<b>Description</b>	Configure event/packet tracing for all sessions (configured and dynamic).
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**trace keyword**

<b>Description</b>	Specifies the trace information to be captured.
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">peers</a> <a href="#">trace-options</a> <a href="#">trace keyword</a>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• all Trace all events and packets</li> <li>• events-all Trace all events</li> <li>• events-session Trace session related events</li> <li>• events-binding Trace binding related events</li> <li>• messages-all Trace all LDP messages</li> <li>• messages-all-detail Trace all LDP messages with detailed output</li> <li>• messages-initialization Trace LDP Initialization packets</li> <li>• messages-initialization-detail Trace LDP Initialization packets with detailed output</li> <li>• messages-keepalive Trace LDP Keepalive packets</li> <li>• messages-label Trace LDP Label Mapping, Label Request, Label Abort Request, Label Withdraw and Label Release packets</li> <li>• messages-label-detail Trace LDP Label Mapping, Label Request, Label Abort Request, Label Withdraw and Label Release packets with detailed output</li> </ul>

- `messages-hello`  
Trace Hello packets
- `messages-hello-detail`  
Trace LDP Hello packets with detailed output

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## statistics

<b>Description</b>	LDP instance level statistics
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## fec-statistics

<b>Description</b>	Enter the fec-statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics fec-statistics</a>
<b>Tree</b>	<a href="#">fec-statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## ipv4-prefix

<b>Description</b>	Enter the ipv4-prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics fec-statistics ipv4-prefix</a>
<b>Tree</b>	<a href="#">ipv4-prefix</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## advertised-fecs *number*

<b>Description</b>	The number of advertised IPv4 prefix FECs to a single peer or all peers. In the overall summary the same FEC prefix advertised to multiple peers counts as 1.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">fec-statistics</a> <a href="#">ipv4-prefix</a> <a href="#">advertised-fecs</a> <i>number</i>
<b>Tree</b>	<a href="#">advertised-fecs</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **received-fecs** *number*

<b>Description</b>	The number of received IPv4 prefix FECs from a single peer or all peers. In the overall summary the same FEC prefix from different peers counts as 1.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">fec-statistics</a> <a href="#">ipv4-prefix</a> <a href="#">received-fecs</a> <i>number</i>
<b>Tree</b>	<a href="#">received-fecs</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **protocol-errors**

<b>Description</b>	Enter the protocol-errors context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">protocol-errors</a>
<b>Tree</b>	<a href="#">protocol-errors</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **bad-ldp-identifier** *number*

<b>Description</b>	The number of notification messages sent to advise of a bad LDP identifier
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">protocol-errors</a> <a href="#">bad-ldp-identifier</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-ldp-identifier</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**bad-message-length** *number*

<b>Description</b>	The number of notification messages sent to advise of a bad message length
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors bad-message-length</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-message-length</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**bad-pdu-length** *number*

<b>Description</b>	The number of notification messages sent to advise of a bad PDU length
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors bad-pdu-length</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-pdu-length</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**bad-protocol-version** *number*

<b>Description</b>	The number of notification messages sent to advise of a bad protocol version
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors bad-protocol-version</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-protocol-version</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**bad-tlv-length** *number*

<b>Description</b>	The number of notification messages sent to advise of a bad TLV length
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors bad-tlv-length</a> <i>number</i>
<b>Tree</b>	<a href="#">bad-tlv-length</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **malformed-tlv-value** *number*

<b>Description</b>	The number of notification messages sent to advise of a malformed TLV value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">protocol-errors</a> <a href="#">malformed-tlv-value</a> <i>number</i>
<b>Tree</b>	<a href="#">malformed-tlv-value</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **missing-message-parameters** *number*

<b>Description</b>	The number of notification messages sent to advise of missing mandatory parameters
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">protocol-errors</a> <a href="#">missing-message-parameters</a> <i>number</i>
<b>Tree</b>	<a href="#">missing-message-parameters</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **session-rejected-bad-keepalive-time** *number*

<b>Description</b>	The number of notification messages sent to advise that a TCP connection was closed because the requested keepalive time is not acceptable
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">ldp</a> <a href="#">statistics</a> <a href="#">protocol-errors</a> <a href="#">session-rejected-bad-keepalive-time</a> <i>number</i>
<b>Tree</b>	<a href="#">session-rejected-bad-keepalive-time</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**session-rejected-no-hello** *number*

<b>Description</b>	The number of notification messages sent to advise that a TCP connection was closed because there was no matching Hello adjacency
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors session-rejected-no-hello</a> <i>number</i>
<b>Tree</b>	<a href="#">session-rejected-no-hello</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**session-rejected-parameters-adv-mode** *number*

<b>Description</b>	The number of notification messages sent to advise that a TCP connection was closed because the requested label advertisement mode is not acceptable
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors session-rejected-parameters-adv-mode</a> <i>number</i>
<b>Tree</b>	<a href="#">session-rejected-parameters-adv-mode</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**session-rejected-parameters-label-range** *number*

<b>Description</b>	The number of notification messages sent to advise that a TCP connection was closed because the requested label range is not acceptable
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors session-rejected-parameters-label-range</a> <i>number</i>
<b>Tree</b>	<a href="#">session-rejected-parameters-label-range</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**session-rejected-parameters-max-pdu-length** *number*

<b>Description</b>	The number of notification messages sent to advise that a TCP connection was closed because the requested Maximum PDU Length is not acceptable
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors session-rejected-parameters-max-pdu-length</a> <i>number</i>
<b>Tree</b>	<a href="#">session-rejected-parameters-max-pdu-length</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **unknown-message-type** *number*

<b>Description</b>	The number of notification messages sent to advise of an unknown message type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors unknown-message-type</a> <i>number</i>
<b>Tree</b>	<a href="#">unknown-message-type</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **unknown-tlv** *number*

<b>Description</b>	The number of notification messages sent to advise of an unknown TLV
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors unknown-tlv</a> <i>number</i>
<b>Tree</b>	<a href="#">unknown-tlv</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **unsupported-address-family** *number*

<b>Description</b>	The number of notification messages sent to advise that a TCP connection was closed because the FEC type is not IPv4
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp statistics protocol-errors unsupported-address-family</a> <i>number</i>
<b>Tree</b>	<a href="#">unsupported-address-family</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **sessions-terminated-holdtime-expiry** *number*

**Description** The total number of LDP sessions that were terminated due to keepalive holdtime expiry.

**Context** [network-instance name](#) *string* [protocols ldp statistics sessions-terminated-holdtime-expiry](#) *number*

**Tree** [sessions-terminated-holdtime-expiry](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **total-discovery-interfaces** *number*

**Description** The total number of IP subinterfaces on which basic LDP discovery is active.

**Context** [network-instance name](#) *string* [protocols ldp statistics total-discovery-interfaces](#) *number*

**Tree** [total-discovery-interfaces](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **total-interface-hello-adjacencies** *number*

**Description** The total number of interface hello adjacencies that are up

**Context** [network-instance name](#) *string* [protocols ldp statistics total-interface-hello-adjacencies](#) *number*

**Tree** [total-interface-hello-adjacencies](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **total-peers** *number*

**Description** The total number of LDP TCP sessions that are established.

**Context** [network-instance name](#) *string* [protocols ldp statistics total-peers](#) *number*

**Tree** [total-peers](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## linux

<b>Description</b>	Enables routing interaction with the Linux kernel
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols linux</a>
<b>Tree</b>	<a href="#">linux</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## export-neighbors *boolean*

<b>Description</b>	Export neighbors to linux routing table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols linux export-neighbors</a> <i>boolean</i>
<b>Tree</b>	<a href="#">export-neighbors</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## export-routes *boolean*

<b>Description</b>	Export routes to linux routing table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols linux export-routes</a> <i>boolean</i>
<b>Tree</b>	<a href="#">export-routes</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## import-routes *boolean*

<b>Description</b>	Import routes from linux routing table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols linux import-routes</a> <i>boolean</i>
<b>Tree</b>	<a href="#">import-routes</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ospf**

<b>Description</b>	Top-level configuration and operational state for Open Shortest Path First (OSPF)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf</a>
<b>Tree</b>	<a href="#">ospf</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**instance** [name](#) *string*

<b>Description</b>	List of OSPF protocol instances associated with this network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	3

**name** *string*

<b>Description</b>	The name of the OSPF instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address-family** *identityref*

<b>Description</b>	The address family that this instance supports. Only valid for OSPFv3.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">address-family</a> <i>identityref</i>
<b>Tree</b>	<a href="#">address-family</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv6-unicast</a> IPv6 unicast address family</li> <li>• <a href="#">ipv4-unicast</a> IPv4 unicast address family</li> </ul>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **admin-state** *keyword*

**Description** Used to administratively enable or disable the OSPF instance

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [admin-state](#) *keyword*

**Tree** [admin-state](#)

**Default** disable

**Options**

- enable
- disable

**Configurable** True

**Platforms** Supported on all platforms

### **advertise-router-capability** *keyword*

**Description** Scope to advertise router-capability.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [advertise-router-capability](#) *keyword*

**Tree** [advertise-router-capability](#)

**Options**

- false
- link
- area
- as

**Configurable** True

**Platforms** Supported on all platforms

### **area** [area-id](#)

**Description** The OSPF areas within which the local system exists

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id](#)

**Tree** [area](#)

**Configurable** True

**Platforms** Supported on all platforms



**area-id**

<b>Description</b>	the area identifier as a dotted-quad.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**active-interfaces** *number*

<b>Description</b>	The number of active interfaces in this area.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id active-interfaces</a> <i>number</i>
<b>Tree</b>	<a href="#">active-interfaces</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**advertise-router-capability** *boolean*

<b>Description</b>	Allow router advertisement capabilities
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id advertise-router-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-router-capability</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**area-bdr-rtr-count**

<b>Description</b>	The total number of area border routers reachable within this area.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id area-bdr-rtr-count</a>
<b>Tree</b>	<a href="#">area-bdr-rtr-count</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**area-range ip-prefix-mask** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	Enter the area-range context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">area-range ip-prefix-mask</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Tree</b>	<a href="#">area-range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-prefix-mask** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	ip-prefix with host bits set to 0
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">area-range ip-prefix-mask</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise** *boolean*

<b>Description</b>	Advertise summarized range of addresses to other areas
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">area-range ip-prefix-mask</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">advertise</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**as-bdr-rtr-count**

<b>Description</b>	The total number of autonomous system border routers reachable within this area.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">as-bdr-rtr-count</a>
<b>Tree</b>	<a href="#">as-bdr-rtr-count</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**blackhole-aggregate** *boolean*

<b>Description</b>	Enables the creation of a blackhole for generated aggregates
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">blackhole-aggregate</a> <i>boolean</i>
<b>Tree</b>	<a href="#">blackhole-aggregate</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**export-policy** *reference*

<b>Description</b>	Apply an export policy when summarizing from this area to other areas.. Summary LSAs for prefixes matching the policy will still be in the linkstate database but are not flooded.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**full-spf-runs**

<b>Description</b>	The total number of times that complete SPF has been run on the router since OSPF was last enabled.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">full-spf-runs</a>
<b>Tree</b>	<a href="#">full-spf-runs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**interface** [interface-name](#) *string*

<b>Description</b>	List of OSPF interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface-name** *string*

<b>Description</b>	Router logical interface name.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administrative state of the OSPF
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise-router-capability** *boolean*

<b>Description</b>	Allow router advertisement capabilities
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">advertise-router-capability</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-router-capability</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise-subnet** *boolean*

<b>Description</b>	Advertise point-to-point interfaces as subnet routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">advertise-subnet</a> <i>boolean</i>
<b>Tree</b>	<a href="#">advertise-subnet</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authentication**

<b>Description</b>	Container with authentication options that apply to all peers in this peer-group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain** *reference*

<b>Description</b>	Reference to a keychain. The keychain type must be ospf
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">authentication keychain</a> <i>reference</i>
<b>Tree</b>	<a href="#">keychain</a>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**bad-packets**

<b>Description</b>	Bad packets counters
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets</a>
<b>Tree</b>	<a href="#">bad-packets</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## auth-failures

<b>Description</b>	The total number of OSPF packets received with an invalid authorization key since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets auth-failures</a>
<b>Tree</b>	<a href="#">auth-failures</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-area

<b>Description</b>	The total number of OSPF packets received with an area mismatch since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-area</a>
<b>Tree</b>	<a href="#">bad-area</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-auth-type

<b>Description</b>	The total number of OSPF packets received with an invalid authorization type since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-auth-type</a>
<b>Tree</b>	<a href="#">bad-auth-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-checksum

<b>Description</b>	The count of LS-as received with bad checksums.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-checksum</a>
<b>Tree</b>	<a href="#">bad-checksum</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-dead-interval

<b>Description</b>	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 admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-dead-interval</a>
<b>Tree</b>	<a href="#">bad-dead-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-dest-address

<b>Description</b>	The total number of OSPF packets received with the incorrect IP destination address since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-dest-address</a>
<b>Tree</b>	<a href="#">bad-dest-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-hello-interval

<b>Description</b>	the value of bad-hello-intervals indicates the total number of OSPF packets received where the hello interval given in packet was not equal to that configured on this interface since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-hello-interval</a>
<b>Tree</b>	<a href="#">bad-hello-interval</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-length

<b>Description</b>	The total number of OSPF packets received with a total length not equal to the length given in the packet itself since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-length</a>

<b>Tree</b>	<a href="#">bad-length</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-neighbors

<b>Description</b>	The total number of OSPF packets received where the neighbor information does not match the information this router has for the neighbor since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-neighbors</a>
<b>Tree</b>	<a href="#">bad-neighbors</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-network

<b>Description</b>	The total number of OSPF packets received with invalid network or mask since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-network</a>
<b>Tree</b>	<a href="#">bad-network</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-options

<b>Description</b>	The total number of OSPF packets received with an option that does not match those configured for this interface or area since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">bad-packets bad-options</a>
<b>Tree</b>	<a href="#">bad-options</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



## bad-packet-type

<b>Description</b>	The total number of OSPF packets received with an invalid OSPF packet type since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">bad-packets</a> <a href="#">bad-packet-type</a>
<b>Tree</b>	<a href="#">bad-packet-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-version

<b>Description</b>	The total number of OSPF packets received with bad OSPF version numbers since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">bad-packets</a> <a href="#">bad-version</a>
<b>Tree</b>	<a href="#">bad-version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bad-virtual-link

<b>Description</b>	The total number of OSPF packets received that are destined to a virtual link that does not exist since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">bad-packets</a> <a href="#">bad-virtual-link</a>
<b>Tree</b>	<a href="#">bad-virtual-link</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## bdr-id

<b>Description</b>	the value of BDR-id indicates the router ID of the backup designated router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">bdr-id</a>
<b>Tree</b>	<a href="#">bdr-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dead-interval** *number*

<b>Description</b>	Time OSPF waits without receiving Hello packets before declaring a neighbor down
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <b>dead-interval</b> <i>number</i>
<b>Tree</b>	<a href="#">dead-interval</a>
<b>Range</b>	2 to 65535
<b>Default</b>	40
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dr-id**

<b>Description</b>	the value of DR-id indicates the router ID of the designated router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <b>dr-id</b>
<b>Tree</b>	<a href="#">dr-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**events**

<b>Description</b>	the value of events indicates the number of times this OSPF interface has changed its state, or an error has occurred.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <b>events</b>
<b>Tree</b>	<a href="#">events</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-detection**

<b>Description</b>	Options related to methods of detecting BGP session failure
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <b>failure-detection</b>

<b>Tree</b>	<a href="#">failure-detection</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**enable-bfd** *boolean*

<b>Description</b>	Enables the use of BFD for liveliness detection
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">failure-detection enable-bfd</a> <i>boolean</i>
<b>Tree</b>	<a href="#">enable-bfd</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hello-interval** *number*

<b>Description</b>	Time between OSPF Hellos of this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">hello-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">hello-interval</a>
<b>Range</b>	1 to 65535
<b>Default</b>	10
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface-type** *keyword*

<b>Description</b>	Interface type to broadcast or point-to-point
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">interface-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">interface-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• broadcast</li> <li>• point-to-point</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**last-enabled-time**

<b>Description</b>	the value of last-enabled-time indicates the sys-up-time value when ospf-if-admin-stat was last set to enabled (1) to run the ospf on this interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">last-enabled-time</a>
<b>Tree</b>	<a href="#">last-enabled-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-event-time** *string*

<b>Description</b>	the value of last-event-time indicates the value of sys-up-time when an event was last associated with this OSPF interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">last-event-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-event-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ldp-synchronization**

<b>Description</b>	Container with configuration options and state that pertains to the operation of LDP-IGP synchronization on this interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization</a>
<b>Tree</b>	<a href="#">ldp-synchronization</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**disable**

<b>Description</b>	Disable LDP-IGP synchronization procedures on this interface, even if synchronization is enabled globally
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization disable</a>
<b>Tree</b>	<a href="#">disable</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**duration** *number*

<b>Description</b>	The length of time that the IGP interface has been in sync or out of sync
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization duration</a> <i>number</i>
<b>Tree</b>	<a href="#">duration</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**end-of-lib** *boolean*

<b>Description</b>	<p>When set to true, the IGP restores the normal metric for the IGP adjacency when learning from LDP that all label-FEC mappings have been received from the LDP peer, even if there is remaining time on the hold-down-timer.</p> <p>When set to false, the IGP always waits for the full duration of the hold-down-timer to restore the normal metric for the IGP adjacency.</p> <p>This overrides the global/instance level setting.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization end-of-lib</a> <i>boolean</i>
<b>Tree</b>	<a href="#">end-of-lib</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**hold-down-timer** *number*

<b>Description</b>	<p>The maximum amount of time that the IGP advertises a maximum metric for an interface, measured from the time that the LDP adjacency is re-established after going down.</p> <p>This overrides the global/instance level setting.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization hold-down-timer</a> <i>number</i>
<b>Tree</b>	<a href="#">hold-down-timer</a>
<b>Range</b>	1 to 1800

<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **sync-state** *keyword*

<b>Description</b>	The current state of the interface with respect to LDP-IGP sync
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">ldp-synchronization sync-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">sync-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• wait-for-LDP-adjacency The IGP is waiting for the LDP adjacency to come up. The interface is being advertised with max-metric.</li> <li>• hold-down-timer-active The LDP adjacency has come up and the IGP has started the hold-down-timer, waiting for either end-of-lib or hold-down-timer expiry. The interface is being advertised with max-metric.</li> <li>• end-of-lib-received The IGP received end-of-lib and has switched to normal operation. The interface is being advertised with a normal metric</li> <li>• hold-down-timer-expired The IGP did not receive end-of-lib (or was configured to ignore it) but hold-down-timer has expired and normal metric is restored.</li> <li>• manual-exit A tools command was performed to exit ldp-sync. Normal operation is resumed, max-metric is removed.</li> <li>• disabled ldp-sync is not applicable on this interface</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **link-lsa-cksum-sum** *string*

<b>Description</b>	the value of link-lsa-cksum-sum indicates the 32-bit unsigned sum of the link-scope link-state advertisements' LS checksums contained in this link's link-state database. the sum can be used to determine if there has been a change in a router's link-state database, and to compare the link state database of two routers.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">link-lsa-cksum-sum</a> <i>string</i>
<b>Tree</b>	<a href="#">link-lsa-cksum-sum</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## link-lsa-count

<b>Description</b>	the value of link-lsa-count indicates the total number of link-scope link-state advertisements in this link's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">link-lsa-count</a>
<b>Tree</b>	<a href="#">link-lsa-count</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## local-ip-address (*ipv4-address* | *ipv6-address*)

<b>Description</b>	the value of local-ip-address indicates the IP address of this OSPF interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">local-ip-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">local-ip-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## lsa-filter-out *keyword*

<b>Description</b>	LSA flooding reduction
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">lsa-filter-out</a> <i>keyword</i>
<b>Tree</b>	<a href="#">lsa-filter-out</a>
<b>Default</b>	none
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• all</li> <li>• except-own-rtrlsa</li> <li>• except-own-rtrlsa-and-defaults</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### lsa-totals

<b>Description</b>	The number of LSAs of each type in this interface's database
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">lsa-totals</a>
<b>Tree</b>	<a href="#">lsa-totals</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### e-link-lsa

<b>Description</b>	The number of extended link LSAs in this interface's database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">lsa-totals e-link-lsa</a>
<b>Tree</b>	<a href="#">e-link-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### link-lsa

<b>Description</b>	The number of link LSAs in this interface's database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">lsa-totals link-lsa</a>
<b>Tree</b>	<a href="#">link-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### link-opaque-lsa

<b>Description</b>	The number of link opaque LSAs in this interface's database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">lsa-totals link-opaque-lsa</a>
<b>Tree</b>	<a href="#">link-opaque-lsa</a>
<b>Configurable</b>	False



**Platforms** Supported on all platforms

## router-info-lsa

**Description** The number of link scoped router information LSAs in this interface's AS database.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [lsa-totals router-info-lsa](#)

**Tree** [router-info-lsa](#)

**Configurable** False

**Platforms** Supported on all platforms

## metric *number*

**Description** Explicit route cost metric that is applied to the interface

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [metric number](#)

**Tree** [metric](#)

**Configurable** True

**Platforms** Supported on all platforms

## mtu *number*

**Description** MTU for the OSPF to use on the interface. For OSPFv3 this must be minimum 1280. If the MTU defined here exceeds the actual IP-MTU of the interface, then the IP-MTU of the interface is used.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [mtu number](#)

**Tree** [mtu](#)

**Range** 512 to 9486

**Configurable** True

**Platforms** Supported on all platforms

## neighbor [router-id](#)

**Description** List of neighbors associated with this OSPF interface

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [neighbor router-id](#)

<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## router-id

<b>Description</b>	The router-id advertised by the neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## address (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	the value of address indicates the IP address of the neighbor associated with the local link.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> )
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## adjacency-state *identityref*

<b>Description</b>	Current OSPF Neighbor state
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id adjacency-state identityref</a>
<b>Tree</b>	<a href="#">adjacency-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• down The initial state of a neighbor, indicating that no recent information has been received from the neighbor.</li> <li>• attempt Utilised for neighbors that are attached to NBMA networks, it indicates that no information has been recently received from the neighbor but that Hello packets should be directly sent to that neighbor.</li> <li>• init</li> </ul>

Indicates that a Hello packet has been received from the neighbor but bi-directional communication has not yet been established. That is to say that the local Router ID does not appear in the list of neighbors in the remote system's Hello packet.

- two-way

Communication between the local and remote system is bi-directional such that the local system's Router ID is listed in the received remote system's Hello packet.

- exstart

An adjacency with the remote system is being formed. The local system is currently transmitting empty database description packets in order to establish the primary/standby relationship for the adjacency.

- exchange

The local and remote systems are currently exchanging database description packets in order to determine which elements of their local LSDBs are out of date.

- loading

The local system is sending Link State Request packets to the remote system in order to receive the more recently LSAs that were discovered during the Exchange phase of the procedure establishing the adjacency.

- full

The neighboring routers are fully adjacent such that both LSDBs are synchronized. The adjacency will appear in Router and Network LSAs

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## backup-designated-router

<b>Description</b>	Advertised backup designated router
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id backup-designated-router</a>
<b>Tree</b>	<a href="#">backup-designated-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## dead-time *number*

<b>Description</b>	The remaining number of seconds remaining in the neighbor's dead time interval
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">dead-time</a> <i>number</i>
<b>Tree</b>	<a href="#">dead-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## designated-router

<b>Description</b>	Advertised designated router
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">designated-router</a>
<b>Tree</b>	<a href="#">designated-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-established-time *number*

<b>Description</b>	Time then OSPF neighbor was last established
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">last-established-time</a> <i>number</i>
<b>Tree</b>	<a href="#">last-established-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-event-time

<b>Description</b>	the value of last-event-time indicates the value of sys-up-time when the last event occurred that affected the adjacency to the neighbour.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">last-event-time</a>
<b>Tree</b>	<a href="#">last-event-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-restart-time

<b>Description</b>	the value of last-restart-time indicates the last time the neighbor attempted restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">last-restart-time</a>
<b>Tree</b>	<a href="#">last-restart-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## optional-capabilities

<b>Description</b>	Advertised Optional Capabilities
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">optional-capabilities</a>
<b>Tree</b>	<a href="#">optional-capabilities</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## priority *number*

<b>Description</b>	Router priority advertised by neighbor
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">priority</a> <i>number</i>
<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## restart-helper-age *number*

<b>Description</b>	the value of restart-helper-age indicates the remaining time in the current OSPF graceful restart interval, if the router is acting as a restart helper for the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">restart-helper-age</a> <i>number</i>
<b>Tree</b>	<a href="#">restart-helper-age</a>
<b>Range</b>	0 to 1800
<b>Units</b>	seconds

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### restart-helper-exit-rc *keyword*

<b>Description</b>	the value of restart-helper-exit-rc indicates the outcome of the last attempt at acting as a graceful restart helper for the neighbor. none no restart has yet been attempted. in-progress A restart attempt is currently underway. completed the last restart completed successfully. timed-out the last restart timed out. topology-changed the last restart was aborted due to a topology change.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id restart-helper-exit-rc</a> <i>keyword</i>
<b>Tree</b>	<a href="#">restart-helper-exit-rc</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• in-progress</li> <li>• completed</li> <li>• timed-out</li> <li>• topology-changed</li> <li>• bfd-down</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### restart-helper-status *keyword*

<b>Description</b>	the value of restart-helper-status indicates whether the router is acting as a graceful restart helper for the neighbor.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id restart-helper-status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">restart-helper-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• not-helping</li> <li>• helping</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**restart-reason** (*number* | *keyword*)

<b>Description</b>	the value of restart-reason indicates the OSPF neighbor's graceful restart reason.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id restart-reason</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">restart-reason</a>
<b>Range</b>	4 to 4294967295
<b>Options</b>	<ul style="list-style-type: none"> <li>• unknown</li> <li>• sw-restart</li> <li>• sw-reload</li> <li>• switch-red</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**retransmission-queue-length** *number*

<b>Description</b>	Enter the retransmission-queue-length context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id retransmission-queue-length</a> <i>number</i>
<b>Tree</b>	<a href="#">retransmission-queue-length</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**state-changes** *number*

<b>Description</b>	total numer of OSPF state changes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id state-changes</a> <i>number</i>
<b>Tree</b>	<a href="#">state-changes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### bad-mtu

<b>Description</b>	the value of bad-MT-us indicates the total number of times when the MTU in a received database description packet was larger than the MTU of the receiving interface since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">statistics bad-mtu</a>
<b>Tree</b>	<a href="#">bad-mtu</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### bad-nbr-states

<b>Description</b>	the value of bad-nbr-states indicates the total number of OSPF packets received when the neighbor state was not expecting to receive this packet type since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">statistics bad-nbr-states</a>
<b>Tree</b>	<a href="#">bad-nbr-states</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### bad-packets

<b>Description</b>	the value of bad-packets indicates the total number of times when an LS update was received with an illegal LS type or an option mismatch since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">statistics bad-packets</a>
<b>Tree</b>	<a href="#">bad-packets</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



## bad-seq-nums

<b>Description</b>	the value of bad-seq-nums indicates the total number of times when a database description packet was received with a sequence number mismatch since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics bad-seq-nums</a>
<b>Tree</b>	<a href="#">bad-seq-nums</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## duplicates

<b>Description</b>	the value of duplicates indicates the total number of times when a duplicate database description packet was received during the exchange state since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics duplicates</a>
<b>Tree</b>	<a href="#">duplicates</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## events

<b>Description</b>	the value of events indicates the number of times this neighbor relationship has changed state, or an error has occurred.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics events</a>
<b>Tree</b>	<a href="#">events</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## lsa-install-failed

<b>Description</b>	the value of lsa-install-failed indicates the total number of times an LSA could not be installed into the LSDB due to a resource allocation issue since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics lsa-install-failed</a>

<b>Tree</b>	<a href="#">lsa-install-failed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## lsa-not-in-lsdb

<b>Description</b>	the value of lsa-not-in-lsdb indicates the total number of times when an LS request was received for an LSA not installed in the LSDB of this router since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics lsa-not-in-lsdb</a>
<b>Tree</b>	<a href="#">lsa-not-in-lsdb</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## num-restarts

<b>Description</b>	the value of num-restarts indicates the number of times the neighbor has attempted restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics num-restarts</a>
<b>Tree</b>	<a href="#">num-restarts</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## option-mismatches

<b>Description</b>	the value of option-mismatches indicates the total number of times when a LS update was received with an option mismatch since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbor router-id statistics option-mismatches</a>
<b>Tree</b>	<a href="#">option-mismatches</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**up-time** *number*

<b>Description</b>	the value of up-time indicates the uninterrupted time, in hundredths of seconds, the adjacency to this neighbour has been up.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor router-id</a> <a href="#">up-time</a> <i>number</i>
<b>Tree</b>	<a href="#">up-time</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-count**

<b>Description</b>	The total number of OSPF neighbors adjacent on this interface, in a state of INIT or greater, since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">neighbor-count</a>
<b>Tree</b>	<a href="#">neighbor-count</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	the OSPF interface state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• down</li> <li>• loopback</li> <li>• waiting</li> <li>• point-to-point</li> <li>• designated-router</li> <li>• backup-designated-router</li> <li>• other-designated-router</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## packets

<b>Description</b>	Packet counters
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets</a>
<b>Tree</b>	<a href="#">packets</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## discarded

<b>Description</b>	The total number of OSPF packets discarded since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets discarded</a>
<b>Tree</b>	<a href="#">discarded</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## retransmits

<b>Description</b>	The total number of OSPF retransmits since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets retransmits</a>
<b>Tree</b>	<a href="#">retransmits</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## rx-db-description

<b>Description</b>	The total number of OSPF database description packets received since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets rx-db-description</a>
<b>Tree</b>	<a href="#">rx-db-description</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## rx-hello

<b>Description</b>	The total number of OSPF hello packets received since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets rx-hello</a>
<b>Tree</b>	<a href="#">rx-hello</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## rx-ls-ack

<b>Description</b>	The total number of link state acknowledgements received since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets rx-ls-ack</a>
<b>Tree</b>	<a href="#">rx-ls-ack</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## rx-ls-request

<b>Description</b>	The total number of link state requests (LS-rs) received since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets rx-ls-request</a>
<b>Tree</b>	<a href="#">rx-ls-request</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## rx-ls-update

<b>Description</b>	The total number of link state updates (LS-us) received since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">packets rx-ls-update</a>
<b>Tree</b>	<a href="#">rx-ls-update</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### rx-total

**Description** The total number of OSPF packets received since admin-state was last set to 'enabled'.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id](#) [interface interface-name](#) *string* [packets rx-total](#)

**Tree** [rx-total](#)

**Configurable** False

**Platforms** Supported on all platforms

### tx-db-description

**Description** The total number of OSPF database description packets transmitted since admin-state was last set to 'enabled'.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id](#) [interface interface-name](#) *string* [packets tx-db-description](#)

**Tree** [tx-db-description](#)

**Configurable** False

**Platforms** Supported on all platforms

### tx-hello

**Description** The total number of OSPF hello packets transmitted since admin-state was last set to 'enabled'.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id](#) [interface interface-name](#) *string* [packets tx-hello](#)

**Tree** [tx-hello](#)

**Configurable** False

**Platforms** Supported on all platforms

### tx-ls-ack

**Description** The total number of OSPF link state acknowledgements transmitted since admin-state was last set to 'enabled'.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id](#) [interface interface-name](#) *string* [packets tx-ls-ack](#)

<b>Tree</b>	<a href="#">tx-ls-ack</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### tx-ls-request

<b>Description</b>	The total number of OSPF link state requests (LS-rs) transmitted since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">packets tx-ls-request</a>
<b>Tree</b>	<a href="#">tx-ls-request</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### tx-ls-update

<b>Description</b>	The total number of OSPF link state updates (LS-us) transmitted since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">packets tx-ls-update</a>
<b>Tree</b>	<a href="#">tx-ls-update</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### tx-total

<b>Description</b>	The total number of OSPF packets transmitted since admin-state was last set to 'enabled'.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">packets tx-total</a>
<b>Tree</b>	<a href="#">tx-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### passive *boolean*

<b>Description</b>	Allow interface to be advertised as an OSPF interface without running the OSPF protocol
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<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols ospf instance name</code> <i>string</i> <code>area area-id interface interface-name</code> <i>string</i> <code>passive</code> <i>boolean</i>
<b>Tree</b>	<code>passive</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **priority** *number*

<b>Description</b>	Priority of the interface to apply in the designated router election on the subnet
<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols ospf instance name</code> <i>string</i> <code>area area-id interface interface-name</code> <i>string</i> <code>priority</code> <i>number</i>
<b>Tree</b>	<code>priority</code>
<b>Range</b>	0 to 255
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **retransmit-interval** *number*

<b>Description</b>	Time before OSPF retransmits an unacknowledged LSA to a neighbor
<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols ospf instance name</code> <i>string</i> <code>area area-id interface interface-name</code> <i>string</i> <code>retransmit-interval</code> <i>number</i>
<b>Tree</b>	<code>retransmit-interval</code>
<b>Range</b>	1 to 1800
<b>Default</b>	5
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace-options**

<b>Description</b>	Enter the trace-options context
<b>Context</b>	<code>network-instance name</code> <i>string</i> <code>protocols ospf instance name</code> <i>string</i> <code>area area-id interface interface-name</code> <i>string</i> <code>trace-options</code>
<b>Tree</b>	<code>trace-options</code>
<b>Configurable</b>	True



**Platforms** Supported on all platforms

## trace

**Description** Tracing parameter flags

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [trace-options trace](#)

**Tree** [trace](#)

**Configurable** True

**Platforms** Supported on all platforms

## adjacencies

**Description** Enable tracing all BGP events.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [trace-options trace adjacencies](#)

**Tree** [adjacencies](#)

**Configurable** True

**Platforms** Supported on all platforms

## interfaces

**Description** Enable tracing all interface events.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [trace-options trace interfaces](#)

**Tree** [interfaces](#)

**Configurable** True

**Platforms** Supported on all platforms

## packet

**Description** Trace OSPF Packet types Only one type can be enabled at a time

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [area area-id interface interface-name](#) *string* [trace-options trace packet](#)

**Tree** [packet](#)

**Configurable** True

**Platforms** Supported on all platforms

**detail**

<b>Description</b>	To enable detailed tracing. Includes both received and sent packets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">trace-options</a> <a href="#">trace</a> <a href="#">packet</a> <a href="#">detail</a>
<b>Tree</b>	<a href="#">detail</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**modifier** *keyword*

<b>Description</b>	Enter the modifier context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">trace-options</a> <a href="#">trace</a> <a href="#">packet</a> <a href="#">modifier</a> <i>keyword</i>
<b>Tree</b>	<a href="#">modifier</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ingress</a> To enable tracing for the packets which are received.</li> <li>• <a href="#">egress</a> To enable tracing for the sent packets.</li> <li>• <a href="#">in-and-egress</a> To enable tracing for both sent and received packets</li> <li>• <a href="#">drop</a> To enable tracing for the sent packets.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	Enter the type context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <a href="#">trace-options</a> <a href="#">trace</a> <a href="#">packet</a> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">all</a> Enable tracing of all OSPF packets</li> <li>• <a href="#">hello</a> Enable tracing of OSPF Hello packets</li> </ul>

- dbdescr  
Enable tracing of OSPF database Descriptor packets
- ls-request  
Enable tracing of OSPF link-state request packets
- ls-update  
Enable tracing of OSPF link-state update packets
- ls-ack  
Enable tracing of OSPF link-state Ack packets

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **transit-delay** *number*

<b>Description</b>	Time required to transmit an LSA on the interface, virtual link, or sham link
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <b>transit-delay</b> <i>number</i>
<b>Tree</b>	<a href="#">transit-delay</a>
<b>Range</b>	1 to 1800
<b>Default</b>	1
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **type** *keyword*

<b>Description</b>	the value of type indicates the operational OSPF interface type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">interface interface-name</a> <i>string</i> <b>type</b> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• broadcast</li> <li>• point-to-point</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## last-spf-run-time

<b>Description</b>	The sys-up-time when intra-area SPF was last run on this area.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">last-spf-run-time</a>
<b>Tree</b>	<a href="#">last-spf-run-time</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## lsa-filter-totals

<b>Description</b>	The number of LSAs not sent due to area policy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-filter-totals</a>
<b>Tree</b>	<a href="#">lsa-filter-totals</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## export-filtered

<b>Description</b>	The number of LSAs not sent due to area export policy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-filter-totals</a> <a href="#">export-filtered</a>
<b>Tree</b>	<a href="#">export-filtered</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## import-filtered

<b>Description</b>	The number of LSAs not sent due to area import policy.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-filter-totals</a> <a href="#">import-filtered</a>
<b>Tree</b>	<a href="#">import-filtered</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## lsa-totals

<b>Description</b>	The number of LSAs of each type in this area's database
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals</a>
<b>Tree</b>	<a href="#">lsa-totals</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## area-opaque-lsa

<b>Description</b>	The number of NSSA LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals</a> <a href="#">area-opaque-lsa</a>
<b>Tree</b>	<a href="#">area-opaque-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## asbr-summary-lsa

<b>Description</b>	The number of ASBR summary LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals</a> <a href="#">asbr-summary-lsa</a>
<b>Tree</b>	<a href="#">asbr-summary-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## e-inter-area-prefix-lsa

<b>Description</b>	The number of OSPFv3 E-inter-area-prefix LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals</a> <a href="#">e-inter-area-prefix-lsa</a>
<b>Tree</b>	<a href="#">e-inter-area-prefix-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## e-inter-area-router-lsa

<b>Description</b>	The number of OSPFv3 E-inter-area-router LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals e-inter-area-router-lsa</a>
<b>Tree</b>	<a href="#">e-inter-area-router-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## e-intra-area-prefix-lsa

<b>Description</b>	The number of OSPFv3 E-intra-area-prefix LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals e-intra-area-prefix-lsa</a>
<b>Tree</b>	<a href="#">e-intra-area-prefix-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## e-network-lsa

<b>Description</b>	The number of OSPFv3 E-network LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals e-network-lsa</a>
<b>Tree</b>	<a href="#">e-network-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## e-nssa-lsa

<b>Description</b>	The number of OSPFv3 E-NSSA LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals e-nssa-lsa</a>
<b>Tree</b>	<a href="#">e-nssa-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## e-router-lsa

<b>Description</b>	The number of OSPFv3 E-router LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals e-router-lsa</a>
<b>Tree</b>	<a href="#">e-router-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## inter-area-prefix-lsa

<b>Description</b>	The number of OSPFv3 inter-area-prefix LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals inter-area-prefix-lsa</a>
<b>Tree</b>	<a href="#">inter-area-prefix-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## inter-area-router-lsa

<b>Description</b>	The number of OSPFv3 inter-area-router LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals inter-area-router-lsa</a>
<b>Tree</b>	<a href="#">inter-area-router-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## intra-area-prefix-lsa

<b>Description</b>	The number of OSPFv3 intra-area-prefix LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals intra-area-prefix-lsa</a>
<b>Tree</b>	<a href="#">intra-area-prefix-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## network-lsa

<b>Description</b>	The number of network LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals network-lsa</a>
<b>Tree</b>	<a href="#">network-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## network-summary-lsa

<b>Description</b>	The number of network summary LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals network-summary-lsa</a>
<b>Tree</b>	<a href="#">network-summary-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## nssa-lsa

<b>Description</b>	The number of NSSA LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals nssa-lsa</a>
<b>Tree</b>	<a href="#">nssa-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## router-info-lsa

<b>Description</b>	The number of OSPFv3 router-info LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals router-info-lsa</a>
<b>Tree</b>	<a href="#">router-info-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**router-lsa**

<b>Description</b>	The number of router LSAs in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals router-lsa</a>
<b>Tree</b>	<a href="#">router-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total**

<b>Description</b>	The number of area scope LSAs within this area.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals total</a>
<b>Tree</b>	<a href="#">total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-lsa-cksum-sum** *string*

<b>Description</b>	The 32-bit unsigned sum of the area scope LSA checksums contained in this area's link-state database. The sum can be used to determine if there has been a change in a router's link-state database, and to compare the link-state database of two routers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals total-lsa-cksum-sum</a> <i>string</i>
<b>Tree</b>	<a href="#">total-lsa-cksum-sum</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**unknown-lsa**

<b>Description</b>	The number of unknown LSA advertisements in this area's link-state database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <a href="#">lsa-totals unknown-lsa</a>
<b>Tree</b>	<a href="#">unknown-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**nssa**

<b>Description</b>	This command creates the context to configure the associated OSPF or OSPF3 area as Not So Stubby Area (NSSA).  NSSAs are similar to stub areas in that no external routes are imported into the area from other OSPF areas. The major difference between a stub area and an NSSA is an NSSA has the capability to flood external routes that it learns throughout its area and via an ABR to the entire OSPF or OSPF3 domain.
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string area area-id nssa</a>
<b>Tree</b>	<a href="#">nssa</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**area-range ip-prefix-mask (ipv4-prefix | ipv6-prefix)**

<b>Description</b>	Enter the area-range context
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string area area-id nssa area-range ip-prefix-mask (ipv4-prefix   ipv6-prefix)</a>
<b>Tree</b>	<a href="#">area-range</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-prefix-mask (ipv4-prefix | ipv6-prefix)**

<b>Description</b>	ip-prefix with host bits set to 0
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string area area-id nssa area-range ip-prefix-mask (ipv4-prefix   ipv6-prefix)</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**advertise boolean**

<b>Description</b>	Advertise summarized range of addresses to other areas
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string area area-id nssa area-range ip-prefix-mask (ipv4-prefix   ipv6-prefix) advertise boolean</a>
<b>Tree</b>	<a href="#">advertise</a>

<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### originate-default-route

<b>Description</b>	Enter the originate-default-route context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <i>nssa</i> <a href="#">originate-default-route</a>
<b>Tree</b>	<a href="#">originate-default-route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### adjacency-check *boolean*

<b>Description</b>	Default route to remove if there is no adjacency
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <i>nssa</i> <a href="#">originate-default-route</a> <a href="#">adjacency-check</a> <i>boolean</i>
<b>Tree</b>	<a href="#">adjacency-check</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### type-nssa *boolean*

<b>Description</b>	Generate a default route using NSSA-LSA type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a> <i>nssa</i> <a href="#">originate-default-route</a> <a href="#">type-nssa</a> <i>boolean</i>
<b>Tree</b>	<a href="#">type-nssa</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**redistribute-external** *boolean*

<b>Description</b>	Enables the redistribution of external routes into the Not So Stubby Area (NSSA) or an NSSA area border router (ABR) that is exporting the routes into non-NSSA areas
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id nssa redistribute-external</a> <i>boolean</i>
<b>Tree</b>	<a href="#">redistribute-external</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**summaries** *boolean*

<b>Description</b>	Enables sending summary (type 3) advertisements into a stub area or Not So Stubby Area (NSSA) on an Area Border Router (ABR)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id nssa summaries</a> <i>boolean</i>
<b>Tree</b>	<a href="#">summaries</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**stub**

<b>Description</b>	Enable the stub context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id stub</a>
<b>Tree</b>	<a href="#">stub</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**default-metric** *number*

<b>Description</b>	Defines the default OSPF metric for associated stub area
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id stub default-metric</a> <i>number</i>
<b>Tree</b>	<a href="#">default-metric</a>

<b>Range</b>	1 to 65535
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### summaries *boolean*

<b>Description</b>	Enables sending summary (type 3) advertisements into a stub area or Not So Stubby Area (NSSA) on an Area Border Router (ABR)
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id stub summaries</a> <i>boolean</i>
<b>Tree</b>	<a href="#">summaries</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### area-border-router *boolean*

<b>Description</b>	This indicates whether this router is an area border router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area-border-router</a> <i>boolean</i>
<b>Tree</b>	<a href="#">area-border-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### as-border-router *boolean*

<b>Description</b>	This indicates whether this router is an AS border router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">as-border-router</a> <i>boolean</i>
<b>Tree</b>	<a href="#">as-border-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### asbr

<b>Description</b>	Configure the router as an ASBR (Autonomous System Boundary Router)
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">asbr</a>
<b>Tree</b>	<a href="#">asbr</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace-path** (*number* | *keyword*)

<b>Description</b>	Domain identity
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">asbr</a> <a href="#">trace-path</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">trace-path</a>
<b>Range</b>	0 to 31
<b>Default</b>	none
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **backbone-router** *boolean*

<b>Description</b>	This indicates whether or not this router is configured as an OSPF back bone router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">backbone-router</a> <i>boolean</i>
<b>Tree</b>	<a href="#">backbone-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **export-limit**

<b>Description</b>	Enter the export-limit context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">export-limit</a>
<b>Tree</b>	<a href="#">export-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**log-percent** *number*

<b>Description</b>	Export limit at which warning a log message and SNMP notification are sent
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">export-limit log-percent</a> <i>number</i>
<b>Tree</b>	<a href="#">log-percent</a>
<b>Range</b>	1 to 100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**number** *number*

<b>Description</b>	Maximum number of routes or prefixes to be exported into IGP instance from route table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">export-limit number</a> <i>number</i>
<b>Tree</b>	<a href="#">number</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**export-policy** *reference*

<b>Description</b>	Apply an export policy to redistribute routes into OSPF
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">export-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**extern-lsa-cksum-sum** *string*

<b>Description</b>	the value of extern-lsa-cksum-sum indicates the 32-bit unsigned sum of the LS checksums of the external link-state advertisements contained in the link-state database. This sum can be used to determine if there has been a change in a router's link state database, and to compare the link-state database of two routers.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">extern-lsa-cksum-sum</a> <i>string</i>
<b>Tree</b>	<a href="#">extern-lsa-cksum-sum</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### extern-lsa-count

<b>Description</b>	the value of extern-lsa-count indicates the number of external LS-as (LS type 0x4005) in the link-state database
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">extern-lsa-count</a>
<b>Tree</b>	<a href="#">extern-lsa-count</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### external-db-overflow

<b>Description</b>	Enable the external-db-overflow context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">external-db-overflow</a>
<b>Tree</b>	<a href="#">external-db-overflow</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### interval *number*

<b>Description</b>	Enter the interval context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">external-db-overflow interval</a> <i>number</i>
<b>Tree</b>	<a href="#">interval</a>
<b>Range</b>	0 to 2147483647
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**limit** *number*

<b>Description</b>	Enter the limit context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">external-db-overflow limit</a> <i>number</i>
<b>Tree</b>	<a href="#">limit</a>
<b>Range</b>	0 to 2147483647
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**external-preference** *number*

<b>Description</b>	Configure the route preference associated with OSPF external routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">external-preference</a> <i>number</i>
<b>Tree</b>	<a href="#">external-preference</a>
<b>Default</b>	150
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**graceful-restart**

<b>Description</b>	Container for options related to OSPF graceful restart
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**helper-mode** *boolean*

<b>Description</b>	Enable or disable the OSPF graceful restart helper function. When this leaf is set, the local system supports retaining forwarding information during a neighbor router's restart.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">graceful-restart helper-mode</a> <i>boolean</i>

<b>Tree</b>	<a href="#">helper-mode</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **strict-lsa-checking** *boolean*

<b>Description</b>	Enter the strict-lsa-checking context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">graceful-restart strict-lsa-checking</a> <i>boolean</i>
<b>Tree</b>	<a href="#">strict-lsa-checking</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **instance-id** *number*

<b>Description</b>	The OSPF multi instance identity as defined in RFC6549 or RFC5838. Supported values are: For OSPFv2 it is between 0 and 31, default is 0. For OSPFv3 address-family ipv6-unicast it is between 0 and 31, default is 0. For OSPFv3 address-family ipv4-unicast it is between 64 and 95, default is 64.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">instance-id</a> <i>number</i>
<b>Tree</b>	<a href="#">instance-id</a>
<b>Range</b>	0 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **last-disabled-reason** *string*

<b>Description</b>	Reason why the disabled state was entered the last time.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-disabled-reason</a> <i>string</i>
<b>Tree</b>	<a href="#">last-disabled-reason</a>
<b>String Length</b>	0 to 20
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-enabled-time *string*

<b>Description</b>	the value of last-enabled-time indicates the value of sys-up-time when admin-state was last set to 'enabled'. when admin-state is set to 'disabled', the OSPF counters are stopped when admin-state is reset to 'enabled', the counters are reset to zero.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-enabled-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-enabled-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-overflow-entered-time *string*

<b>Description</b>	The value of last-ovrflw-entered-time indicates the value of sys-up-time the last time we entered overflow state. this overflow state occurs when the number of non-default AS-external-LS-as entries exceed the link-state database capability.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-overflow-entered-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-overflow-entered-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-overflow-exit-time *string*

<b>Description</b>	the value of last-overflow-exit-time indicates the value of sys-up-time the last time we exited overflow state. this overflow state occurs when the number of non-default AS-external-LS-as entries exceed the link-state database capability.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-overflow-exit-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-overflow-exit-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-overload-enter-code** *keyword*

<b>Description</b>	the value of last-overload-enter-code indicates the condition which caused OSPF to get into overload.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-overload-enter-code</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-overload-enter-code</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• spf-failed</li> <li>• boot-overload</li> <li>• manual-overload</li> <li>• sfm-overload</li> <li>• fib-add-fail</li> <li>• rtm-add-fail</li> <li>• rtr-adv-lsa-limit</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-overload-entered-time** *string*

<b>Description</b>	the value of last-overload-entrd-time indicates the time at which the system last went into overload state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-overload-entered-time</a> <i>string</i>
<b>Tree</b>	<a href="#">last-overload-entered-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-overload-exit-code** *keyword*

<b>Description</b>	the value of last-overload-exit-code indicates the reason why OSPF came out of overload state the last time, since reset.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">last-overload-exit-code</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-overload-exit-code</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> </ul>

- `bgp-sig-recv`
- `timer-expired`
- `manual-exit`
- `sfm-overload-done`

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-overload-exit-time** *string*

<b>Description</b>	the value of <code>last-overload-exit-time</code> indicates the time at which the system last came out of overload state.
<b>Context</b>	<code>network-instance name string protocols ospf instance name string last-overload-exit-time string</code>
<b>Tree</b>	<code>last-overload-exit-time</code>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ldp-synchronization**

<b>Description</b>	Enable LDP-IGP synchronization procedures on all P2P interfaces and all LAN interfaces with a single adjacency, except on interfaces where the functionality is explicitly disabled.
<b>Context</b>	<code>network-instance name string protocols ospf instance name string ldp-synchronization</code>
<b>Tree</b>	<code>ldp-synchronization</code>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **end-of-lib** *boolean*

<b>Description</b>	When set to true, the IGP restores the normal metric for the IGP adjacency when learning from LDP that all label-FEC mappings have been received from the LDP peer, even if there is remaining time on the hold-down-timer.  When set to false, the IGP always waits for the full duration of the hold-down-timer to restore the normal metric for the IGP adjacency.
<b>Context</b>	<code>network-instance name string protocols ospf instance name string ldp-synchronization end-of-lib boolean</code>

<b>Tree</b>	<a href="#">end-of-lib</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### hold-down-timer *number*

<b>Description</b>	The maximum amount of time that the IGP advertises a maximum metric for an interface, measured from the time that the LDP adjacency is re-established after going down.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">ldp-synchronization hold-down-timer</a> <i>number</i>
<b>Tree</b>	<a href="#">hold-down-timer</a>
<b>Range</b>	1 to 1800
<b>Default</b>	60
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### lsa-totals

<b>Description</b>	The number of LSAs of each type in this instance's AS database
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">lsa-totals</a>
<b>Tree</b>	<a href="#">lsa-totals</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### as-external-lsa

<b>Description</b>	The number of AS External LSAs in this instance's AS database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">lsa-totals as-external-lsa</a>
<b>Tree</b>	<a href="#">as-external-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**as-opaque-lsa**

<b>Description</b>	The number of AS opaque LSAs in this instance's AS database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">lsa-totals as-opaque-lsa</a>
<b>Tree</b>	<a href="#">as-opaque-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**e-as-external-lsa**

<b>Description</b>	The number of extended AS External LSAs in this instance's AS database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">lsa-totals e-as-external-lsa</a>
<b>Tree</b>	<a href="#">e-as-external-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**router-info-lsa**

<b>Description</b>	The number of AS scoped router information LSAs in this instance's AS database.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">lsa-totals router-info-lsa</a>
<b>Tree</b>	<a href="#">router-info-lsa</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max-ecmp-paths** *number*

<b>Description</b>	The maximum number of ECMP next-hops to program into the FIB for every IP prefix
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">max-ecmp-paths</a> <i>number</i>
<b>Tree</b>	<a href="#">max-ecmp-paths</a>
<b>Range</b>	1 to 64
<b>Default</b>	1
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **new-lsas-originated**

**Description** The number of new link-state advertisements that have been originated. This number is incremented each time the router originates a new LSA.

**Context** [network-instance name string protocols ospf instance name string new-lsas-originated](#)

**Tree** [new-lsas-originated](#)

**Configurable** False

**Platforms** Supported on all platforms

### **new-lsas-received**

**Description** The number of link-state advertisements received determined to be new instantiations. This number does not include newer instantiations of self-originated link-state advertisements.

**Context** [network-instance name string protocols ospf instance name string new-lsas-received](#)

**Tree** [new-lsas-received](#)

**Configurable** False

**Platforms** Supported on all platforms

### **opaque-lsa-support *boolean***

**Description** the value of opaque-lsa-support indicates the router's support for opaque LSA types. this object is valid only when version is 'version2'.

**Context** [network-instance name string protocols ospf instance name string opaque-lsa-support boolean](#)

**Tree** [opaque-lsa-support](#)

**Configurable** False

**Platforms** Supported on all platforms

### **oper-state *keyword***

**Description** Used to report operational state of the OSPF instance

**Context** [network-instance name string protocols ospf instance name string oper-state keyword](#)



<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **overflow** *boolean*

<b>Description</b>	The value of in-overflow-state indicates the current overflow state (true/false). This overflow state occurs when the number of non-default AS-external-LS-as entries exceed the link-state database capability.
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string overflow boolean</a>
<b>Tree</b>	<a href="#">overflow</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **overload**

<b>Description</b>	Enter the overload context
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string overload</a>
<b>Tree</b>	<a href="#">overload</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **active** *boolean*

<b>Description</b>	Enter the active context
<b>Context</b>	<a href="#">network-instance name string protocols ospf instance name string overload active boolean</a>
<b>Tree</b>	<a href="#">active</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**overload-include-ext-1** *boolean*

<b>Description</b>	Enter the overload-include-ext-1 context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload overload-include-ext-1</a> <i>boolean</i>
<b>Tree</b>	<a href="#">overload-include-ext-1</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**overload-include-ext-2** *boolean*

<b>Description</b>	Enter the overload-include-ext-2 context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload overload-include-ext-2</a> <i>boolean</i>
<b>Tree</b>	<a href="#">overload-include-ext-2</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**overload-include-stub** *boolean*

<b>Description</b>	Enter the overload-include-stub context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload overload-include-stub</a> <i>boolean</i>
<b>Tree</b>	<a href="#">overload-include-stub</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**overload-on-boot**

<b>Description</b>	Enable the overload-on-boot context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload overload-on-boot</a>
<b>Tree</b>	<a href="#">overload-on-boot</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **timeout** *number*

**Description** Enter the timeout context

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [overload](#) [overload-on-boot timeout](#) *number*

**Tree** [timeout](#)

**Range** 60 to 1800

**Default** 60

**Units** seconds

**Configurable** True

**Platforms** Supported on all platforms

### **rtr-adv-lsa-limit**

**Description** Enter the rtr-adv-lsa-limit context

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [overload](#) [rtr-adv-lsa-limit](#)

**Tree** [rtr-adv-lsa-limit](#)

**Configurable** True

**Platforms** Supported on all platforms

### **log-only** *boolean*

**Description** Enter the log-only context

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [overload](#) [rtr-adv-lsa-limit log-only](#) *boolean*

**Tree** [log-only](#)

**Configurable** True

**Platforms** Supported on all platforms

### **max-lsa-count** *number*

**Description** Enter the max-lsa-count context

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [overload](#) [rtr-adv-lsa-limit max-lsa-count](#) *number*

<b>Tree</b>	<a href="#">max-lsa-count</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **overload-timeout** *number*

<b>Description</b>	Enter the overload-timeout context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload rtr-adv-lsa-limit overload-timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">overload-timeout</a>
<b>Range</b>	1 to 1800
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **warning-threshold** *number*

<b>Description</b>	Enter the warning-threshold context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload rtr-adv-lsa-limit warning-threshold</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold</a>
<b>Range</b>	0 to 100
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **overload-rem-interval** *number*

<b>Description</b>	the value of overload-rem-interval indicates the time for which the system will be in overload state if OSPF is in overload state. the value of 0 implies that the system is indefinitely in overload state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload-rem-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">overload-rem-interval</a>
<b>Range</b>	0 to 65535
<b>Units</b>	seconds
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **overload-state** *keyword*

**Description** the value of overload-oper-state indicates whether or not the OSPF application is presently in overload state or not.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [overload-state](#) *keyword*

**Tree** [overload-state](#)

**Options**

- overload
- no-overload

**Configurable** False

**Platforms** Supported on all platforms

### **ovld-lsa-limit-rem-interval** *number*

**Description** the value of ovld-lsa-limit-rem-interval indicates the remaining time in seconds for which the system will be in overload state due to advertising router LSA limit exceeded. the value of 0 implies that the system is either not in overload or indefinitely in overload state.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [ovld-lsa-limit-rem-interval](#) *number*

**Tree** [ovld-lsa-limit-rem-interval](#)

**Range** 0 to 65535

**Units** seconds

**Configurable** False

**Platforms** Supported on all platforms

### **preference** *number*

**Description** Sets the route preference for OSPF sourced routes

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [preference](#) *number*

**Tree** [preference](#)

**Range** 1 to 255

**Default** 10

**Configurable** True

**Platforms** Supported on all platforms

### reference-bandwidth *number*

**Description** Configures the reference bandwidth that provides the basis for interface metrics based on link Bandwidth

If the reference bandwidth is defined, then the cost is calculated using the following formula:  $\text{cost} = \text{reference-bandwidth} / \text{bandwidth}$

When a large reference-bandwidth value is configured, a metric calculation may result in a value higher than the supported protocol cost value. If this occurs, OSPF automatically reverts to the maximum configurable cost metric.

**Context** [network-instance name string protocols ospf instance name string reference-bandwidth number](#)

**Tree** [reference-bandwidth](#)

**Range** 1 to 8000000000

**Default** 400000000

**Units** kbps

**Configurable** True

**Platforms** Supported on all platforms

### router-id

**Description** Enter the router-id context

**Context** [network-instance name string protocols ospf instance name string router-id](#)

**Tree** [router-id](#)

**Configurable** True

**Platforms** Supported on all platforms

### routes-submitted

**Description** the value of routes-submitted indicates the number of routes submitted to the route table manager (RTM) by this instance of OSPF.

**Context** [network-instance name string protocols ospf instance name string routes-submitted](#)

**Tree** [routes-submitted](#)

**Configurable** False

**Platforms** Supported on all platforms

**spf**

<b>Description</b>	SPF related information
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf</a>
<b>Tree</b>	<a href="#">spf</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**avg-spf-run-interval** *number*

<b>Description</b>	the value of avg-spf-run-interval indicates the average time, in hundredths of seconds, of all the total SPF calculations performed by this OSPF router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf avg-spf-run-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">avg-spf-run-interval</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ext-spf-runs**

<b>Description</b>	The total number of times that only the external portion of the SPF has been run since OSPF was last enabled.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf ext-spf-runs</a>
<b>Tree</b>	<a href="#">ext-spf-runs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**full-spf-runs**

<b>Description</b>	The total number of times that complete SPF has been run on the router since OSPF was last enabled.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf full-spf-runs</a>
<b>Tree</b>	<a href="#">full-spf-runs</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### incremental-ext-spf-runs

<b>Description</b>	The total number of incremental SPF runs triggered by new or updated external LS-as.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf incremental-ext-spf-runs</a>
<b>Tree</b>	<a href="#">incremental-ext-spf-runs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### incremental-inter-spf-runs

<b>Description</b>	The total number of incremental SPF runs triggered by new or updated inter-area prefix or inter-area router LS-as.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf incremental-inter-spf-runs</a>
<b>Tree</b>	<a href="#">incremental-inter-spf-runs</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-ext-spf

<b>Description</b>	Information about the last external SPF run
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-ext-spf</a>
<b>Tree</b>	<a href="#">last-ext-spf</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### interval *number*

<b>Description</b>	the value of ext-spf-run-interval indicates the time, in hundredths of seconds, used to perform the most recent total external (not incremental) SPF calculation.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-ext-spf interval</a> <i>number</i>
<b>Tree</b>	<a href="#">interval</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **run-time** *string*

<b>Description</b>	the value of last-ext-spf-run-time indicates the value of sys-up-time when the external OSPF dijkstra (SPF) was last run.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-ext-spf run-time</a> <i>string</i>
<b>Tree</b>	<a href="#">run-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-full-spf**

<b>Description</b>	Information about the last full SPF run
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf</a>
<b>Tree</b>	<a href="#">last-full-spf</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **extern-spf-time** *number*

<b>Description</b>	Time it took, in hundredths of seconds, to complete the external LSA calculations.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf extern-spf-time</a> <i>number</i>
<b>Tree</b>	<a href="#">extern-spf-time</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**inter-spf-time** *number*

<b>Description</b>	Time it took, in hundredths of seconds, to complete the inter-area SPF calculations.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf inter-spf-time</a> <i>number</i>
<b>Tree</b>	<a href="#">inter-spf-time</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**intra-spf-time** *number*

<b>Description</b>	Time it took, in hundredths of seconds, to complete the intra-area SPF calculations.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf intra-spf-time</a> <i>number</i>
<b>Tree</b>	<a href="#">intra-spf-time</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**rtm-update-time** *number*

<b>Description</b>	Time it took, in hundredths of seconds, to complete the RTM updates.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf rtm-update-time</a> <i>number</i>
<b>Tree</b>	<a href="#">rtm-update-time</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**run-time** *string*

<b>Description</b>	the value of last-full-spf-run-time indicates the time at which the system last performed a full dijkstra (SPF) run.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf run-time</a> <i>string</i>
<b>Tree</b>	<a href="#">run-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-time** *number*

<b>Description</b>	Time it took, in hundredths of seconds, to complete the last SPF run completely.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf last-full-spf total-time</a> <i>number</i>
<b>Tree</b>	<a href="#">total-time</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max-spf-run-interval** *number*

<b>Description</b>	the value of max-spf-run-interval indicates the maximum time, in hundredths of seconds, used to perform a total SPF calculation.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf max-spf-run-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">max-spf-run-interval</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**min-spf-run-interval** *number*

<b>Description</b>	the value of min-spf-run-interval indicates the minimum time, in hundredths of seconds, used to perform a total SPF calculation.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf min-spf-run-interval</a> <i>number</i>
<b>Tree</b>	<a href="#">min-spf-run-interval</a>
<b>Range</b>	0 to 2147483647
<b>Units</b>	centiseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**spf-attempts-failed**

<b>Description</b>	The number of times an attempt to run SPF has failed because SPF runs have been stopped as a result of insufficient memory resources.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">spf spf-attempts-failed</a>
<b>Tree</b>	<a href="#">spf-attempts-failed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**timers**

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**incremental-spf-wait** *number*

<b>Description</b>	Delay time before an incremental SPF calculation is started
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers incremental-spf-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">incremental-spf-wait</a>
<b>Range</b>	0 to 1000
<b>Default</b>	1000

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<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### Isa-accumulate *number*

<b>Description</b>	Delay time for accumulating multiple LSAs before advertising them to neighbors
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers isa-accumulate</a> <i>number</i>
<b>Tree</b>	<a href="#">isa-accumulate</a>
<b>Range</b>	0 to 1000
<b>Default</b>	1000
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### Isa-arrival *number*

<b>Description</b>	Minimum delay between receipt of the same LSAs arriving from neighbors
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers isa-arrival</a> <i>number</i>
<b>Tree</b>	<a href="#">isa-arrival</a>
<b>Range</b>	0 to 600000
<b>Default</b>	1000
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### Isa-generate

<b>Description</b>	Enter the isa-generate context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers isa-generate</a>
<b>Tree</b>	<a href="#">isa-generate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**lsa-initial-wait** *number*

<b>Description</b>	First waiting period between link state advertisements LSA originates
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers lsa-generate lsa-initial-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">lsa-initial-wait</a>
<b>Range</b>	10 to 600000
<b>Default</b>	5000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**lsa-second-wait** *number*

<b>Description</b>	Hold time between the first and second LSA generation
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers lsa-generate lsa-second-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">lsa-second-wait</a>
<b>Range</b>	10 to 600000
<b>Default</b>	5000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-lsa-wait** *number*

<b>Description</b>	Maximum time between two consecutive occurrences of an LSA being generated
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers lsa-generate max-lsa-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">max-lsa-wait</a>
<b>Range</b>	10 to 600000
<b>Default</b>	5000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**redistribute-delay** *number*

<b>Description</b>	Hold down timer for external routes that are redistributed in OSPF
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers redistribute-delay</a> <i>number</i>
<b>Tree</b>	<a href="#">redistribute-delay</a>
<b>Range</b>	0 to 1000
<b>Default</b>	1000
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**spf-wait**

<b>Description</b>	Enter the spf-wait context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers spf-wait</a>
<b>Tree</b>	<a href="#">spf-wait</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**spf-initial-wait** *number*

<b>Description</b>	Initial SPF calculation delay after a topology change
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers spf-wait spf-initial-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">spf-initial-wait</a>
<b>Range</b>	10 to 100000
<b>Default</b>	1000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**spf-max-wait** *number*

<b>Description</b>	Maximum interval between two consecutive SPF calculations
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers spf-wait spf-max-wait</a> <i>number</i>

<b>Tree</b>	<a href="#">spf-max-wait</a>
<b>Range</b>	10 to 120000
<b>Default</b>	10000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **spf-second-wait** *number*

<b>Description</b>	Hold time between the first and second SPF calculation
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">timers spf-wait spf-second-wait</a> <i>number</i>
<b>Tree</b>	<a href="#">spf-second-wait</a>
<b>Range</b>	10 to 100000
<b>Default</b>	1000
<b>Units</b>	milliseconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **total-exported-routes**

<b>Description</b>	the value of total-exported-routes indicates the total number of routes exported into OSPF from the route table manager when an export policy is configured. value of total-exported-routes would be 0 when no export policy is configured.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">total-exported-routes</a>
<b>Tree</b>	<a href="#">total-exported-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **trace-options**

<b>Description</b>	Enter the trace-options context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## trace

<b>Description</b>	Tracing parameter flags
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace</a>
<b>Tree</b>	<a href="#">trace</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## adjacencies

<b>Description</b>	Enable tracing all BGP events.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace adjacencies</a>
<b>Tree</b>	<a href="#">adjacencies</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## graceful-restart

<b>Description</b>	Enable tracing all graceful-restart events.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace graceful-restart</a>
<b>Tree</b>	<a href="#">graceful-restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## interfaces

<b>Description</b>	Enable tracing all interface events.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace interfaces</a>
<b>Tree</b>	<a href="#">interfaces</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## Isdb

**Description** Trace OSPF LSDB events Only one type can be enabled at a time

**Context** [network-instance name string protocols ospf instance name string trace-options trace Isdb](#)

**Tree** [Isdb](#)

**Configurable** True

**Platforms** Supported on all platforms

## link-state-id *string*

**Description** Enter the link-state-id context

**Context** [network-instance name string protocols ospf instance name string trace-options trace Isdb link-state-id string](#)

**Tree** [link-state-id](#)

**Configurable** True

**Platforms** Supported on all platforms

## router-id *string*

**Description** Enter the router-id context

**Context** [network-instance name string protocols ospf instance name string trace-options trace Isdb router-id string](#)

**Tree** [router-id](#)

**Configurable** True

**Platforms** Supported on all platforms

## type *keyword*

**Description** Enter the type context

**Context** [network-instance name string protocols ospf instance name string trace-options trace Isdb type keyword](#)

**Tree** [type](#)

**Options**

- all  
Enable tracing of all LSDB events

- router  
Enable tracing of LSDB router LSA events
- network  
Enable tracing of OSPF LSDB network LSA events
- summary  
Enable tracing of OSPF LSDB summary LSA events
- nssa  
Enable tracing of OSPF LSDB NSSA LSA events
- external  
Enable tracing of OSPF LSDB events for External LSA
- opaque  
Enable tracing of OSPF LSDB events involving opaque LSA
- inter-area-prefix  
Enable tracing of OSPF LSDB events for inter-area prefixes
- inter-area-router  
Enable tracing of OSPF LSDB events for inter-area routers
- intra-area-prefix  
Enable tracing of OSPF LSDB events for intra-area prefixes

**Configurable**

True

**Platforms**

Supported on all platforms

**misc****Description**

Enable tracing all Config events.

**Context**[network-instance name](#) *string* [protocols ospf instance name](#) *string* [trace-options trace misc](#)**Tree**[misc](#)**Configurable**

True

**Platforms**

Supported on all platforms

**packet****Description**

Trace OSPF Packet types Only one type can be enabled at a time

**Context**[network-instance name](#) *string* [protocols ospf instance name](#) *string* [trace-options trace packet](#)**Tree**[packet](#)**Configurable**

True

**Platforms** Supported on all platforms

## detail

**Description** To enable detailed tracing. Includes both received and sent packets.

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [trace-options trace packet detail](#)

**Tree** [detail](#)

**Configurable** True

**Platforms** Supported on all platforms

## modifier *keyword*

**Description** Enter the modifier context

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [trace-options trace packet modifier](#) *keyword*

**Tree** [modifier](#)

**Options**

- ingress  
To enable tracing for the packets which are received.
- egress  
To enable tracing for the sent packets.
- in-and-egress  
To enable tracing for both sent and received packets
- drop  
To enable tracing for the sent packets.

**Configurable** True

**Platforms** Supported on all platforms

## type *keyword*

**Description** Enter the type context

**Context** [network-instance name](#) *string* [protocols ospf instance name](#) *string* [trace-options trace packet type](#) *keyword*

**Tree** [type](#)

**Options**

- all  
Enable tracing of all OSPF packets
- hello

- Enable tracing of OSPF Hello packets
- dbdescr  
Enable tracing of OSPF database Descriptor packets
- ls-request  
Enable tracing of OSPF link-state request packets
- ls-update  
Enable tracing of OSPF link-state update packets
- ls-ack  
Enable tracing of OSPF link-state Ack packets

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## routes

<b>Description</b>	Enable the routes context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace routes</a>
<b>Tree</b>	<a href="#">routes</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dest-address (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Enter the dest-address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace routes dest-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">dest-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## spf

<b>Description</b>	Enable the spf context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace spf</a>
<b>Tree</b>	<a href="#">spf</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **dest-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Enter the dest-address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">trace-options trace spf dest-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">dest-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **version** *identityref*

<b>Description</b>	The version that this ospf instance supports.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">version identityref</a>
<b>Tree</b>	<a href="#">version</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>ospf-v2 Version 2 of the OSPF protocol</li> <li>ospf-v3 Version 3 of the OSPF protocol</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **route-table**

<b>Description</b>	Enter the route-table context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a>
<b>Tree</b>	<a href="#">route-table</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv4-unicast**

<b>Description</b>	The container for the IPv4 unicast routing table of the network instance.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a>
<b>Tree</b>	<a href="#">ipv4-unicast</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route** [ipv4-prefix](#) *string* [route-type](#) [identityref](#) [route-owner](#) *string* [id](#) *number* [origin-network-instance](#) *reference*

<b>Description</b>	Enter the route list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">route</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ipv4-prefix** *string*

<b>Description</b>	The IPv4 prefix associated with the route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <i>reference</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-type** [identityref](#)

<b>Description</b>	The type of the IP route
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <i>reference</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">aggregate</a> Locally configured aggregate route</li> <li>• <a href="#">arp-nd</a> IP route added by ARP ND.</li> <li>• <a href="#">bgp</a> Border Gateway Protocol version 4</li> <li>• <a href="#">bgp-evpn</a></li> </ul>

## BGP Ethernet VPN (EVPN)

- dhcp  
IP (default) route added by DHCP.
- gribi  
A gRIBI route
- host  
A host route
- isis  
IS-IS
- local  
A directly connected route
- linux  
IP route added by the linux kernel.
- ndk1  
Route added by an agent application using the NDK
- ndk2  
Route added by an agent application using the NDK
- ospfv2  
OSPFv2
- ospfv3  
OSPFv3
- static  
Locally configured static route

**Configurable**

False

**Platforms**

Supported on all platforms

**route-owner** *string***Description**

The application name of the owner of the IP route

**Context**

[network-instance name](#) *string* [route-table](#) [ipv4-unicast route](#) [ipv4-prefix](#) *string* [route-type](#) [identityref](#) [route-owner](#) *string* [id](#) [number](#) [origin-network-instance](#) [reference](#)

**Configurable**

False

**Platforms**

Supported on all platforms



**id number**

<b>Description</b>	An owner-assigned index value that is unique for each of the routes for a given prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**origin-network-instance reference**

<b>Description</b>	Origin network instance of the route (where it was originally learned or configured)  If the route was leaked from another network instance, the value of this leaf reflects the network-instance from which it was learned. If it was not leaked the value is the same as the parent network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active boolean**

<b>Description</b>	If set to true then the route is installed as the active route for the IP prefix in the FIB. A route can be inactive because there is a more preferred route for the same prefix or else its next-hops are unresolved.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a> <a href="#">active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fib-programming**

<b>Description</b>	Container for state related to the FIB programming of the object
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a>
<b>Tree</b>	<a href="#">fib-programming</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-failed-complexes** *string*

<b>Description</b>	List of forwarding complexes that reported a failure for the last operation. They appear in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">last-failed-complexes</a> <i>string</i>
<b>Tree</b>	<a href="#">last-failed-complexes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-failed-operation-type** *keyword*

<b>Description</b>	The last operation type that failed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">last-failed-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-failed-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>add</b> The current or last operation was an attempt to create a new entry.</li> <li>• <b>delete</b> The current or last operation was an attempt to delete an existing entry.</li> <li>• <b>modify</b> The current or last operation was an attempt to modify an existing entry.</li> <li>• <b>none</b> There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-successful-operation-timestamp** *string*

<b>Description</b>	The date and time of the last operation to complete successfully, if the entry was not suppressed.  A delete operation is immediately timestamped by FIB manager on the assumption that it will ultimately be successful on all complexes. For other operations the timestamp is generated when the last complex that was expected to respond has responded with a success acknowledgement.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">last-successful-operation-timestamp</a> <i>string</i>
<b>Tree</b>	<a href="#">last-successful-operation-timestamp</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-successful-operation-type** *keyword*

<b>Description</b>	The last operation type that completed successfully, if the entry was not suppressed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">last-successful-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-successful-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• add The current or last operation was an attempt to create a new entry.</li> <li>• delete The current or last operation was an attempt to delete an existing entry.</li> <li>• modify The current or last operation was an attempt to modify an existing entry.</li> <li>• none There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pending-operation-type** *keyword*

<b>Description</b>	The current operation type that is in progress because not all complexes have responded.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance reference</a> <a href="#">fib-programming</a> <a href="#">pending-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">pending-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>add</b> The current or last operation was an attempt to create a new entry.</li> <li>• <b>delete</b> The current or last operation was an attempt to delete an existing entry.</li> <li>• <b>modify</b> The current or last operation was an attempt to modify an existing entry.</li> <li>• <b>none</b> There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**suppressed** *boolean*

<b>Description</b>	When true, FIB programming for this entry has been suppressed and it is only installed in the control plane route table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance reference</a> <a href="#">fib-programming</a> <a href="#">suppressed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">suppressed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**gribi-metadata** *binary*

<b>Description</b>	Metadata persistently stored with the entry.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance reference</a> <a href="#">gribi-metadata</a> <i>binary</i>
<b>Tree</b>	<a href="#">gribi-metadata</a>
<b>String Length</b>	0 to 8

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-app-update** *string*

<b>Description</b>	The date and time of the last update of this route by the owning application or protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv4-unicast route ipv4-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string id number</i> <a href="#">origin-network-instance reference last-app-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-app-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**leakable** *boolean*

<b>Description</b>	Reads true when the route was matched and accepted by the route-leaking inter-instance export-policy
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv4-unicast route ipv4-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string id number</i> <a href="#">origin-network-instance reference leakable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leakable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**metric** *number*

<b>Description</b>	The metric of the IP route. In general, when comparing two routes with the same owner and preference, the route with the lower metric is the one that is activated and used for forwarding.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv4-unicast route ipv4-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string id number</i> <a href="#">origin-network-instance reference metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group** *reference*

<b>Description</b>	The next-hop-group indirection object used by this route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv4-unicast route ipv4-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string id number</i> <a href="#">origin-network-instance reference</a> <a href="#">next-hop-group reference</a>
<b>Tree</b>	<a href="#">next-hop-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table next-hop-group index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group-network-instance** *reference*

<b>Description</b>	The network instance where the next-hop-group can be found. If unspecified, the next hop group is in the local network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv4-unicast route ipv4-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string id number</i> <a href="#">origin-network-instance reference</a> <a href="#">next-hop-group-network-instance reference</a>
<b>Tree</b>	<a href="#">next-hop-group-network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**preference** *number*

<b>Description</b>	The IP route table preference. This is sometimes called the administrative distance of the route. In general, when comparing any two routes, the route with the lower preference is the one that is activated and used for forwarding.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv4-unicast route ipv4-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string id number</i> <a href="#">origin-network-instance reference</a> <a href="#">preference</a> <i>number</i>
<b>Tree</b>	<a href="#">preference</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**resilient-hash** *boolean*

<b>Description</b>	Set to true if the route is covered by a resilient-hash-prefix entry
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">resilient-hash</a> <i>boolean</i>
<b>Tree</b>	<a href="#">resilient-hash</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **target-network-instances** *reference*

<b>Description</b>	List of network-instances that have imported this route as a result of matching and accepting it in their inter-instance import-policy
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast route</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">target-network-instances</a> <i>reference</i>
<b>Tree</b>	<a href="#">target-network-instances</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-summary**

<b>Description</b>	Route summary information
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">route-summary</a>
<b>Tree</b>	<a href="#">route-summary</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-type** [ip-route-type-name](#) *identityref*

<b>Description</b>	Enter the route-type list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">route-summary</a> <a href="#">route-type</a> <a href="#">ip-route-type-name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">route-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ip-route-type-name** *identityref*

<b>Description</b>	IP route type
<b>Context</b>	<a href="#">network-instance name</a> <a href="#">string</a> <a href="#">route-table ipv4-unicast</a> <a href="#">route-summary</a> <a href="#">route-type ip-route-type-name</a> <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• aggregate Locally configured aggregate route</li> <li>• arp-nd IP route added by ARP ND.</li> <li>• bgp Border Gateway Protocol version 4</li> <li>• bgp-evpn BGP Ethernet VPN (EVPN)</li> <li>• dhcp IP (default) route added by DHCP.</li> <li>• gribi A gRIBI route</li> <li>• host A host route</li> <li>• isis IS-IS</li> <li>• local A directly connected route</li> <li>• linux IP route added by the linux kernel.</li> <li>• ndk1 Route added by an agent application using the NDK</li> <li>• ndk2 Route added by an agent application using the NDK</li> <li>• ospfv2 OSPFv2</li> <li>• ospfv3 OSPFv3</li> <li>• static Locally configured static route</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**active-routes** *number*

<b>Description</b>	Total number of prefixes associated with this route type that were submitted to fib-mgr and that fib-mgr successfully installed as active routes
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">route-summary</a> <a href="#">route-type</a> <a href="#">ip-route-type-name</a> <i>identityref</i> <a href="#">active-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">active-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-routes** *number*

<b>Description</b>	The total number of prefixes, belonging to this address family, with an active route in the FIB.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">statistics</a> <a href="#">active-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">active-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-routes-with-ecmp** *number*

<b>Description</b>	The total number of prefixes, belonging to this address family, that have an active route in the FIB with multiple ECMP next-hops.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">statistics</a> <a href="#">active-routes-with-ecmp</a> <i>number</i>
<b>Tree</b>	<a href="#">active-routes-with-ecmp</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fib-failed-routes** *number*

<b>Description</b>	The total number of prefixes, belonging to this address family, that were not installed successfully because datapath resources were unavailable.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">statistics</a> <a href="#">fib-failed-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">fib-failed-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**resilient-hash-routes** *number*

<b>Description</b>	The total number of prefixes, belonging to this address family, with an active route in the FIB that have resilient hash support.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">statistics</a> <a href="#">resilient-hash-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">resilient-hash-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-routes** *number*

<b>Description</b>	The total number of routes, active and inactive, belonging to this address family, that are present in the routing table.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv4-unicast</a> <a href="#">statistics</a> <a href="#">total-routes</a> <i>number</i>
<b>Tree</b>	<a href="#">total-routes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv6-unicast**

<b>Description</b>	The container for the IPv6 unicast routing table of the network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast</a>
<b>Tree</b>	<a href="#">ipv6-unicast</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

**route** *ipv6-prefix string route-type identityref route-owner string id number origin-network-instance reference*

**Description** Enter the route list instance

**Context** *network-instance name string route-table ipv6-unicast route ipv6-prefix string route-type identityref route-owner string id number origin-network-instance reference*

**Tree** *route*

**Configurable** False

**Platforms** Supported on all platforms

**ipv6-prefix** *string*

**Description** The IPv6 prefix associated with the route.

**Context** *network-instance name string route-table ipv6-unicast route ipv6-prefix string route-type identityref route-owner string id number origin-network-instance reference*

**Configurable** False

**Platforms** Supported on all platforms

**route-type** *identityref*

**Description** The type of the IP route

**Context** *network-instance name string route-table ipv6-unicast route ipv6-prefix string route-type identityref route-owner string id number origin-network-instance reference*

**Options**

- aggregate  
Locally configured aggregate route
- arp-nd  
IP route added by ARP ND.
- bgp  
Border Gateway Protocol version 4
- bgp-evpn  
BGP Ethernet VPN (EVPN)
- dhcp  
IP (default) route added by DHCP.

- gribi  
A gRIBI route
- host  
A host route
- isis  
IS-IS
- local  
A directly connected route
- linux  
IP route added by the linux kernel.
- ndk1  
Route added by an agent application using the NDK
- ndk2  
Route added by an agent application using the NDK
- ospfv2  
OSPFv2
- ospfv3  
OSPFv3
- static  
Locally configured static route

**Configurable**

False

**Platforms**

Supported on all platforms

**route-owner *string*****Description**

The application name of the owner of the IP route

**Context**

[network-instance name \*string\*](#) [route-table \*string\*](#) [ipv6-unicast route \*string\*](#) [ipv6-prefix \*string\*](#) [route-type \*identityref\*](#) [route-owner \*string\*](#) [id \*number\*](#) [origin-network-instance \*reference\*](#)

**Configurable**

False

**Platforms**

Supported on all platforms

**id *number*****Description**

An owner-assigned index value that is unique for each of the routes for a given prefix.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number origin-network-instance reference</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **origin-network-instance** *reference*

<b>Description</b>	Origin network instance of the route (where it was originally learned or configured)  If the route was leaked from another network instance, the value of this leaf reflects the network-instance from which it was learned. If it was not leaked the value is the same as the parent network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number origin-network-instance reference</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **active** *boolean*

<b>Description</b>	If set to true then the route is installed as the active route for the IP prefix in the FIB. A route can be inactive because there is a more preferred route for the same prefix or else its next-hops are unresolved.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number origin-network-instance reference active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **fib-programming**

<b>Description</b>	Container for state related to the FIB programming of the object
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number origin-network-instance reference fib-programming</a>
<b>Tree</b>	<a href="#">fib-programming</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **last-failed-complexes** *string*

**Description** List of forwarding complexes that reported a failure for the last operation. They appear in the format (slot-number,complex-number).

**Context** [network-instance name](#) *string* [route-table ipv6-unicast route ipv6-prefix](#) *string* [route-type identityref route-owner](#) *string* [id number](#) [origin-network-instance reference fib-programming last-failed-complexes](#) *string*

**Tree** [last-failed-complexes](#)

**Configurable** False

**Platforms** Supported on all platforms

### **last-failed-operation-type** *keyword*

**Description** The last operation type that failed.

**Context** [network-instance name](#) *string* [route-table ipv6-unicast route ipv6-prefix](#) *string* [route-type identityref route-owner](#) *string* [id number](#) [origin-network-instance reference fib-programming last-failed-operation-type](#) *keyword*

**Tree** [last-failed-operation-type](#)

**Options**

- add  
The current or last operation was an attempt to create a new entry.
- delete  
The current or last operation was an attempt to delete an existing entry.
- modify  
The current or last operation was an attempt to modify an existing entry.
- none  
There was no prior operation for this entry or there is no current operation that is in process

**Configurable** False

**Platforms** Supported on all platforms

### **last-successful-operation-timestamp** *string*

**Description** The date and time of the last operation to complete successfully, if the entry was not suppressed.

A delete operation is immediately timestamped by FIB manager on the assumption that it will ultimately be successful on all complexes. For other

operations the timestamp is generated when the last complex that was expected to respond has responded with a success acknowledgement.

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">last-successful-operation-timestamp</a> <i>string</i>
<b>Tree</b>	<a href="#">last-successful-operation-timestamp</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-successful-operation-type** *keyword*

<b>Description</b>	The last operation type that completed successfully, if the entry was not suppressed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">last-successful-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-successful-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>add</b> The current or last operation was an attempt to create a new entry.</li> <li>• <b>delete</b> The current or last operation was an attempt to delete an existing entry.</li> <li>• <b>modify</b> The current or last operation was an attempt to modify an existing entry.</li> <li>• <b>none</b> There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **pending-operation-type** *keyword*

<b>Description</b>	The current operation type that is in progress because not all complexes have responded.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">fib-programming</a> <a href="#">pending-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">pending-operation-type</a>

<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>add</b> The current or last operation was an attempt to create a new entry.</li> <li>• <b>delete</b> The current or last operation was an attempt to delete an existing entry.</li> <li>• <b>modify</b> The current or last operation was an attempt to modify an existing entry.</li> <li>• <b>none</b> There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
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<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **suppressed** *boolean*

<b>Description</b>	When true, FIB programming for this entry has been suppressed and it is only installed in the control plane route table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number origin-network-instance reference fib-programming suppressed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">suppressed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **gribi-metadata** *binary*

<b>Description</b>	Metadata persistently stored with the entry.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number origin-network-instance reference gribi-metadata</a> <i>binary</i>
<b>Tree</b>	<a href="#">gribi-metadata</a>
<b>String Length</b>	0 to 8
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-app-update** *string*

<b>Description</b>	The date and time of the last update of this route by the owning application or protocol.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a> <a href="#">last-app-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-app-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**leakable** *boolean*

<b>Description</b>	Reads true when the route was matched and accepted by the route-leaking inter-instance export-policy
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a> <a href="#">leakable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">leakable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**metric** *number*

<b>Description</b>	The metric of the IP route. In general, when comparing two routes with the same owner and preference, the route with the lower metric is the one that is activated and used for forwarding.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a> <a href="#">metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group** *reference*

<b>Description</b>	The next-hop-group indirection object used by this route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table ipv6-unicast route ipv6-prefix</a> <i>string</i> <a href="#">route-type identityref route-owner</a> <i>string</i> <a href="#">id number</a> <a href="#">origin-network-instance reference</a> <a href="#">next-hop-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">next-hop-group</a>

<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **next-hop-group-network-instance** *reference*

<b>Description</b>	The network instance where the next-hop-group can be found. If unspecified, the next hop group is in the local network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <i>reference</i> <a href="#">next-hop-group-network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">next-hop-group-network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **preference** *number*

<b>Description</b>	The IP route table preference. This is sometimes called the administrative distance of the route. In general, when comparing any two routes, the route with the lower preference is the one that is activated and used for forwarding.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <i>reference</i> <a href="#">preference</a> <i>number</i>
<b>Tree</b>	<a href="#">preference</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **resilient-hash** *boolean*

<b>Description</b>	Set to true if the route is covered by a resilient-hash-prefix entry
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">origin-network-instance</a> <i>reference</i> <a href="#">resilient-hash</a> <i>boolean</i>
<b>Tree</b>	<a href="#">resilient-hash</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**target-network-instances** *reference*

<b>Description</b>	List of network-instances that have imported this route as a result of matching and accepting it in their inter-instance import-policy
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast route</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">route-type</a> <a href="#">identityref</a> <a href="#">route-owner</a> <i>string</i> <a href="#">id</a> <a href="#">number</a> <a href="#">origin-network-instance</a> <a href="#">reference</a> <a href="#">target-network-instances</a> <a href="#">reference</a>
<b>Tree</b>	<a href="#">target-network-instances</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-summary**

<b>Description</b>	Route summary information
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast</a> <a href="#">route-summary</a>
<b>Tree</b>	<a href="#">route-summary</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-type** [ip-route-type-name](#) *identityref*

<b>Description</b>	Enter the route-type list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast</a> <a href="#">route-summary</a> <a href="#">route-type</a> <a href="#">ip-route-type-name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">route-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ip-route-type-name** *identityref*

<b>Description</b>	IP route type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">ipv6-unicast</a> <a href="#">route-summary</a> <a href="#">route-type</a> <a href="#">ip-route-type-name</a> <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">aggregate</a> Locally configured aggregate route</li> <li>• <a href="#">arp-nd</a> IP route added by ARP ND.</li> </ul>

- `bgp`  
Border Gateway Protocol version 4
- `bgp-evpn`  
BGP Ethernet VPN (EVPN)
- `dhcp`  
IP (default) route added by DHCP.
- `gribi`  
A gRIBI route
- `host`  
A host route
- `isis`  
IS-IS
- `local`  
A directly connected route
- `linux`  
IP route added by the linux kernel.
- `ndk1`  
Route added by an agent application using the NDK
- `ndk2`  
Route added by an agent application using the NDK
- `ospfv2`  
OSPFv2
- `ospfv3`  
OSPFv3
- `static`  
Locally configured static route

**Configurable**

False

**Platforms**

Supported on all platforms

**active-routes** *number***Description**

Total number of prefixes associated with this route type that were submitted to fib-mgr and that fib-mgr successfully installed as active routes

**Context**[network-instance name](#) *string* [route-table](#) *ipv6-unicast* [route-summary](#) [route-type ip-route-type-name](#) *identityref* [active-routes](#) *number***Tree**[active-routes](#)**Configurable**

False

**Platforms** Supported on all platforms

## statistics

**Description** Enter the statistics context

**Context** [network-instance name](#) *string* [route-table](#) [ipv6-unicast](#) [statistics](#)

**Tree** [statistics](#)

**Configurable** False

**Platforms** Supported on all platforms

## active-routes *number*

**Description** The total number of prefixes, belonging to this address family, with an active route in the FIB.

**Context** [network-instance name](#) *string* [route-table](#) [ipv6-unicast](#) [statistics](#) [active-routes](#) *number*

**Tree** [active-routes](#)

**Configurable** False

**Platforms** Supported on all platforms

## active-routes-with-ecmp *number*

**Description** The total number of prefixes, belonging to this address family, that have an active route in the FIB with multiple ECMP next-hops.

**Context** [network-instance name](#) *string* [route-table](#) [ipv6-unicast](#) [statistics](#) [active-routes-with-ecmp](#) *number*

**Tree** [active-routes-with-ecmp](#)

**Configurable** False

**Platforms** Supported on all platforms

## fib-failed-routes *number*

**Description** The total number of prefixes, belonging to this address family, that were not installed successfully because datapath resources were unavailable.

**Context** [network-instance name](#) *string* [route-table](#) [ipv6-unicast](#) [statistics](#) [fib-failed-routes](#) *number*

**Tree** [fib-failed-routes](#)

**Configurable** False

**Platforms** Supported on all platforms

### resilient-hash-routes *number*

**Description** The total number of prefixes, belonging to this address family, with an active route in the FIB that have resilient hash support.

**Context** [network-instance name](#) *string* [route-table](#) [ipv6-unicast](#) [statistics](#) [resilient-hash-routes](#) *number*

**Tree** [resilient-hash-routes](#)

**Configurable** False

**Platforms** Supported on all platforms

### total-routes *number*

**Description** The total number of routes, active and inactive, belonging to this address family, that are present in the routing table.

**Context** [network-instance name](#) *string* [route-table](#) [ipv6-unicast](#) [statistics](#) [total-routes](#) *number*

**Tree** [total-routes](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### mpls

**Description** The container for the MPLS routing table of the network instance.

**Context** [network-instance name](#) *string* [route-table](#) [mpls](#)

**Tree** [mpls](#)

**Configurable** False

**Platforms** Supported on all platforms

### label-entry [label-value](#) *number*

**Description** Enter the label-entry list instance

**Context** [network-instance name](#) *string* [route-table](#) [mpls](#) [label-entry](#) [label-value](#) *number*

**Tree** [label-entry](#)

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**label-value** *number*

<b>Description</b>	The MPLS label value
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">mpls</a> <a href="#">label-entry</a> <a href="#">label-value</a> <i>number</i>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**entry-type** *identityref*

<b>Description</b>	The entry type of the MPLS FIB entry.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">mpls</a> <a href="#">label-entry</a> <a href="#">label-value</a> <i>number</i> <a href="#">entry-type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">entry-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ldp</a> Label distribution protocol</li> <li>• <a href="#">sr-mpls</a> Segment routing using MPLS dataplane, programmed by segment routing manager.</li> <li>• <a href="#">static-mpls</a> Locally configured static MPLS route.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-app-update** *string*

<b>Description</b>	The date and time of the last update of this MPLS label entry by the owning application or protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">mpls</a> <a href="#">label-entry</a> <a href="#">label-value</a> <i>number</i> <a href="#">last-app-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-app-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **next-hop-group** *reference*

**Description** The next-hop-group indirection object used by this route. Applicable only if the operation is SWAP.

**Context** [network-instance name](#) *string* [route-table](#) [mpls label-entry](#) [label-value](#) [number](#) [next-hop-group](#) *reference*

**Tree** [next-hop-group](#)

**Reference** [network-instance name](#) *string* [route-table](#) [next-hop-group](#) [index](#) [number](#)

**Configurable** False

**Platforms** Supported on all platforms

### **next-network-instance** *reference*

**Description** If this ILM entry is for a pop label, and this label is at the bottom of the stack, the next forwarding lookup will be done in the referenced network-instance

**Context** [network-instance name](#) *string* [route-table](#) [mpls label-entry](#) [label-value](#) [number](#) [next-network-instance](#) *reference*

**Tree** [next-network-instance](#)

**Reference** [network-instance name](#) *string*

**Configurable** False

**Platforms** Supported on all platforms

### **operation** *keyword*

**Description** The forwarding operation associated with the MPLS label entry.

**Context** [network-instance name](#) *string* [route-table](#) [mpls label-entry](#) [label-value](#) [number](#) [operation](#) *keyword*

**Tree** [operation](#)

**Options**

- pop
- swap

**Configurable** False

**Platforms** Supported on all platforms



**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">mpls</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-entries** *number*

<b>Description</b>	The total number of MPLS entries that are active in the FIB.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">mpls</a> <a href="#">statistics</a> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop** [index](#) *number*

<b>Description</b>	Enter the next-hop list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <i>number</i>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**index** *number*

<b>Description</b>	A system-wide unique identifier of a next-hop object (system allocated).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**decapsulate-header** *keyword*

<b>Description</b>	Packets matching this next-hop are decapsulated by removing the specified header.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <i>number</i> <a href="#">decapsulate-header</a> <i>keyword</i>
<b>Tree</b>	<a href="#">decapsulate-header</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>gre</code> The encapsulation header is a Generic Routing Encapsulation header.</li> <li>• <code>ipv4</code> The encapsulation header is an IPv4 packet header</li> <li>• <code>ipv6</code> The encapsulation header is an IPv6 packet header</li> <li>• <code>mpls</code> The encapsulation header is one or more MPLS labels indicated by the pushed and popped label stack lists.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **encapsulate-header** *keyword*

<b>Description</b>	Packets matching this next-hop are encapsulated by adding the specified header.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <i>number</i> <a href="#">encapsulate-header</a> <i>keyword</i>
<b>Tree</b>	<a href="#">encapsulate-header</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>gre</code> The encapsulation header is a Generic Routing Encapsulation header.</li> <li>• <code>ipv4</code> The encapsulation header is an IPv4 packet header</li> <li>• <code>ipv6</code> The encapsulation header is an IPv6 packet header</li> <li>• <code>mpls</code> The encapsulation header is one or more MPLS labels indicated by the pushed and popped label stack lists.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ip-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The next-hop IP address. Only populated when the next-hop type is indirect or tunnel or static-mpls. For a VXLAN tunnel this is the destination VTEP address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">ip-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">ip-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ip-in-ip**

<b>Description</b>	Specifies details of the IP-in-IP header added to the packet. This is valid only when encapsulate-header is ipv4 or ipv6
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">ip-in-ip</a>
<b>Tree</b>	<a href="#">ip-in-ip</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dst-ip** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Destination IP address to use for the encapsulated packet.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">ip-in-ip</a> <a href="#">dst-ip</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">dst-ip</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**src-ip** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Source IP address to use for the encapsulated packet.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">ip-in-ip</a> <a href="#">src-ip</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">src-ip</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mac-address** *string*

<b>Description</b>	The MAC address of the next-hop that has been provided directly. No value is populated if the next-hop IP is resolved by an ARP or IPv6 ND entry.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">mac-address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mpls**

<b>Description</b>	Enter the mpls context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">mpls</a>
<b>Tree</b>	<a href="#">mpls</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pushed-mpls-label-stack** (*number* | *keyword*)

<b>Description</b>	The list of MPLS labels to push onto the packet when forwarding to this particular next-hop.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">mpls</a> <a href="#">pushed-mpls-label-stack</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">pushed-mpls-label-stack</a>
<b>Range</b>	16 to 1048575
<b>Options</b>	<ul style="list-style-type: none"> <li>• IPV4_EXPLICIT_NULL</li> <li>• IPV6_EXPLICIT_NULL</li> <li>• IMPLICIT_NULL</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**network-instance** *reference*

<b>Description</b>	Indicates that the next-hop is another network instance. If this is specified but an IP address or interface is not provided, the meaning is that a new IP lookup should occur in the other network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">network-instance reference</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**programmed-index** *number*

<b>Description</b>	The index assigned to the next-hop by the gRIBI client
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">programmed-index</a> <i>number</i>
<b>Tree</b>	<a href="#">programmed-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**resolving-route**

<b>Description</b>	Enter the resolving-route context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-route</a>
<b>Tree</b>	<a href="#">resolving-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ip-prefix** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	The prefix of the resolving route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-route</a> <a href="#">ip-prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Tree</b>	<a href="#">ip-prefix</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-owner** *string*

<b>Description</b>	The application name of the owner of the resolving route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-route</a> <a href="#">route-owner</a> <i>string</i>
<b>Tree</b>	<a href="#">route-owner</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**route-type** *identityref*

<b>Description</b>	The type of the resolving route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-route</a> <a href="#">route-type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">route-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• aggregate Locally configured aggregate route</li> <li>• arp-nd IP route added by ARP ND.</li> <li>• bgp Border Gateway Protocol version 4</li> <li>• bgp-evpn BGP Ethernet VPN (EVPN)</li> <li>• dhcp IP (default) route added by DHCP.</li> <li>• gribi A gRIBI route</li> <li>• host A host route</li> <li>• isis IS-IS</li> <li>• local A directly connected route</li> <li>• linux IP route added by the linux kernel.</li> <li>• ndk1</li> </ul>

Route added by an agent application using the NDK

- ndk2

Route added by an agent application using the NDK

- ospfv2  
OSPFv2
- ospfv3  
OSPFv3
- static  
Locally configured static route

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## resolving-tunnel

<b>Description</b>	Enter the resolving-tunnel context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-tunnel</a>
<b>Tree</b>	<a href="#">resolving-tunnel</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## ip-prefix (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	The prefix of the resolving tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-tunnel</a> <a href="#">ip-prefix (<i>ipv4-prefix</i>   <i>ipv6-prefix</i>)</a>
<b>Tree</b>	<a href="#">ip-prefix</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## tunnel-owner *string*

<b>Description</b>	The application name of the owner of the resolving tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">resolving-tunnel</a> <a href="#">tunnel-owner</a> <i>string</i>
<b>Tree</b>	<a href="#">tunnel-owner</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tunnel-type** *identityref*

<b>Description</b>	The type of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table next-hop index</a> <i>number</i> <a href="#">resolving-tunnel tunnel-type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">tunnel-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-in-ip Tunnels with IP-in-IP encapsulation</li> <li>• sr-isis Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• sr-policy-mpls-colored Tunnel setup using TE-POLICY.</li> <li>• sr-policy-mpls-uncolored Tunnel setup using TE-POLICY.</li> <li>• vxlan Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **subinterface** *reference*

<b>Description</b>	The next-hop interface. Only populated when the next-hop type is direct.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table next-hop index</a> <i>number</i> <a href="#">subinterface</a> <i>reference</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Reference</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**type** *identityref*

<b>Description</b>	The next-hop type used by the datapath.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>extract</b> Next-hop will cause matching packets to be delivered to the CPM.</li> <li>• <b>direct</b> Next-hop was resolved by a local route - i.e. it is an address on a connected subnet.</li> <li>• <b>discard</b> Next-hop will cause matching packets to be dropped without ICMP generation.</li> <li>• <b>reject</b> Next-hop will cause matching packets to be dropped with ICMP generation.</li> <li>• <b>indirect</b> Next-hop was resolved by a non-local route - i.e. it is not an address on a connected subnet.</li> <li>• <b>mpls</b> An MPLS label will be pushed when forwarding to this next-hop.</li> <li>• <b>tunnel</b> Next-hop is a tunnel.</li> <li>• <b>broadcast</b> Next-hop will cause matching subnet-bradcast packets to be delivered to the control plane.</li> <li>• <b>redirect</b> Next-hop will redirect to another network-instance.</li> <li>• <b>interface-with-mac</b> Next-hop is associated with an outbound interface plus MAC address</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vxlan**

<b>Description</b>	Enter the vxlan context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i> <a href="#">vxlan</a>

<b>Tree</b>	<a href="#">vxlan</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**destination-mac** *string*

<b>Description</b>	VXLAN inner ethernet destination mac-address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <a href="#">number</a> <a href="#">vxlan</a> <a href="#">destination-mac</a> <i>string</i>
<b>Tree</b>	<a href="#">destination-mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**source-mac** *string*

<b>Description</b>	VXLAN inner ethernet source mac-address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <a href="#">number</a> <a href="#">vxlan</a> <a href="#">source-mac</a> <i>string</i>
<b>Tree</b>	<a href="#">source-mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vni** *number*

<b>Description</b>	VXLAN Network Identifier of the destination.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop</a> <a href="#">index</a> <a href="#">number</a> <a href="#">vxlan</a> <a href="#">vni</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">vni</a>
<b>Range</b>	1 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group** [index](#) *number*

<b>Description</b>	Enter the next-hop-group list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">next-hop-group</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**index number**

<b>Description</b>	A system-wide unique identifier of a next-hop-group indirection object (system allocated).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**backup-next-hop-group reference**

<b>Description</b>	The backup next-hop-group for the current group. When all entries within the next-hop group become unusable, the backup next-hop group is used if specified.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index number</a> <a href="#">backup-next-hop-group reference</a>
<b>Tree</b>	<a href="#">backup-next-hop-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fib-programming**

<b>Description</b>	Container for state related to the FIB programming of the object
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index number</a> <a href="#">fib-programming</a>
<b>Tree</b>	<a href="#">fib-programming</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-failed-complexes string**

<b>Description</b>	List of forwarding complexes that reported a failure for the last operation. They appear in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index number</a> <a href="#">fib-programming</a> <a href="#">last-failed-complexes</a> <i>string</i>

<b>Tree</b>	<a href="#">last-failed-complexes</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-failed-operation-type** *keyword*

<b>Description</b>	The last operation type that failed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <i>number</i> <a href="#">fib-programming</a> <a href="#">last-failed-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-failed-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• add The current or last operation was an attempt to create a new entry.</li> <li>• delete The current or last operation was an attempt to delete an existing entry.</li> <li>• modify The current or last operation was an attempt to modify an existing entry.</li> <li>• none There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-successful-operation-timestamp** *string*

<b>Description</b>	<p>The date and time of the last operation to complete successfully, if the entry was not suppressed.</p> <p>A delete operation is immediately timestamped by FIB manager on the assumption that it will ultimately be successful on all complexes. For other operations the timestamp is generated when the last complex that was expected to respond has responded with a success acknowledgement.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <i>number</i> <a href="#">fib-programming</a> <a href="#">last-successful-operation-timestamp</a> <i>string</i>
<b>Tree</b>	<a href="#">last-successful-operation-timestamp</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-successful-operation-type** *keyword*

<b>Description</b>	The last operation type that completed successfully, if the entry was not suppressed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <i>number</i> <a href="#">fib-programming</a> <a href="#">last-successful-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-successful-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• add The current or last operation was an attempt to create a new entry.</li> <li>• delete The current or last operation was an attempt to delete an existing entry.</li> <li>• modify The current or last operation was an attempt to modify an existing entry.</li> <li>• none There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pending-operation-type** *keyword*

<b>Description</b>	The current operation type that is in progress because not all complexes have responded.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group</a> <a href="#">index</a> <i>number</i> <a href="#">fib-programming</a> <a href="#">pending-operation-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">pending-operation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• add The current or last operation was an attempt to create a new entry.</li> <li>• delete The current or last operation was an attempt to delete an existing entry.</li> <li>• modify The current or last operation was an attempt to modify an existing entry.</li> <li>• none There was no prior operation for this entry or there is no current operation that is in process</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**suppressed** *boolean*

<b>Description</b>	When true, FIB programming for this entry has been suppressed and it is only installed in the control plane route table
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">fib-programming suppressed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">suppressed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**group-name-alias** *string*

<b>Description</b>	The alias name associated with this next-hop-group.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">group-name-alias</a> <i>string</i>
<b>Tree</b>	<a href="#">group-name-alias</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop id** *number*

<b>Description</b>	Enter the next-hop list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">next-hop id</a> <i>number</i>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id** *number*

<b>Description</b>	A unique identifier of a next-hop member (system allocated).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">next-hop id</a> <i>number</i>
<b>Range</b>	0 to 1023
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop** *reference*

<b>Description</b>	Enter the next-hop context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">next-hop id</a> <i>number</i> <a href="#">next-hop reference</a>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**resolved** *keyword*

<b>Description</b>	Set to true when the next-hop was resolved. This reads not-applicable for resolve=false next-hops.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">next-hop id</a> <i>number</i> <a href="#">resolved keyword</a>
<b>Tree</b>	<a href="#">resolved</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• true</li> <li>• false</li> <li>• not-applicable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**weight** *number*

<b>Description</b>	<p>The configured/programmed weight assigned to the next-hop within the group</p> <p>This may be different from the actual weight used by the datapath, which changes depending on the next-hops that are up/down in the group. Traffic is balanced across the next-hops within the group in proportion of the actual weight.</p>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table</a> <a href="#">next-hop-group index</a> <i>number</i> <a href="#">next-hop id</a> <i>number</i> <a href="#">weight</a> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**programmed-index** *number*

<b>Description</b>	The index assigned to the next-hop-group by the gRIBI client
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table next-hop-group index</a> <i>number</i> <a href="#">programmed-index</a> <i>number</i>
<b>Tree</b>	<a href="#">programmed-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**router-id** *string*

<b>Description</b>	A identifier for the local network instance - typically used within associated routing protocols or signalling routing information in another network instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">router-id</a> <i>string</i>
<b>Tree</b>	<a href="#">router-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**segment-routing**

<b>Description</b>	Container with segment routing configuration options
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing</a>
<b>Tree</b>	<a href="#">segment-routing</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mpls**

<b>Description</b>	Adding this container activates datapath support for SR-MPLS
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls</a>
<b>Tree</b>	<a href="#">mpls</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**global-block**

<b>Description</b>	Container with SRGB configuration that is applicable to all IGP protocol instances
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls global-block</a>
<b>Tree</b>	<a href="#">global-block</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-range** *reference*

<b>Description</b>	Reference to a static label range
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls global-block label-range reference</a>
<b>Tree</b>	<a href="#">label-range</a>
<b>Reference</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**label-range-status** *keyword*

<b>Description</b>	Status of the label block. The label block may show as unavailable if there is pending cleanup.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls global-block label-range-status keyword</a>
<b>Tree</b>	<a href="#">label-range-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• available</li> <li>• unavailable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**local-prefix-sid** [prefix-sid-index](#) *number*

<b>Description</b>	List of configured protocol-independent prefix SIDs associated with the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls local-prefix-sid prefix-sid-index</a> <i>number</i>
<b>Tree</b>	<a href="#">local-prefix-sid</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	4

### **prefix-sid-index number**

<b>Description</b>	An index to enumerate the different prefix sids
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls local-prefix-sid prefix-sid-index</a> <i>number</i>
<b>Range</b>	1 to 4
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **interface string**

<b>Description</b>	Reference to the subinterface that owns the prefix(es) to be advertised. If ipv4-label-index is assigned a value then the primary IPv4 address of the referenced subinterface is advertised as a prefix SID. If ipv6-label-index is assigned a value then the primary IPv6 address of the referenced subinterface is advertised as a prefix SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls local-prefix-sid prefix-sid-index</a> <i>number</i> <a href="#">interface</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **ipv4-label-index number**

<b>Description</b>	Label index to add to SRGB base.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls local-prefix-sid prefix-sid-index</a> <i>number</i> <a href="#">ipv4-label-index</a> <i>number</i>
<b>Tree</b>	<a href="#">ipv4-label-index</a>

<b>Range</b>	0 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### ipv6-label-index *number*

<b>Description</b>	Label index to add to SRGB base.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls local-prefix-sid prefix-sid-index</a> <i>number</i> <a href="#">ipv6-label-index</a> <i>number</i>
<b>Tree</b>	<a href="#">ipv6-label-index</a>
<b>Range</b>	0 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### node-sid *boolean*

<b>Description</b>	If set, the prefix SID(s) identity the router as a whole.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls local-prefix-sid prefix-sid-index</a> <i>number</i> <a href="#">node-sid</a> <i>boolean</i>
<b>Tree</b>	<a href="#">node-sid</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### sid-database

<b>Description</b>	Database of all known prefix SIDs, local and remote.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database</a>
<b>Tree</b>	<a href="#">sid-database</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**prefix-sid** *prefix (ipv4-prefix | ipv6-prefix) sid-label-value number protocol keyword protocol-instance number protocol-multi-topology number algorithm number*

<b>Description</b>	List of prefix SIDs
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number protocol keyword protocol-instance number protocol-multi-topology number algorithm number</a>
<b>Tree</b>	<a href="#">prefix-sid</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**prefix** *(ipv4-prefix | ipv6-prefix)*

<b>Description</b>	The IPv4 or IPv6 prefix associated with the SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number protocol keyword protocol-instance number protocol-multi-topology number algorithm number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sid-label-value** *number*

<b>Description</b>	The MPLS label value associated with the SID.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number protocol keyword protocol-instance number protocol-multi-topology number algorithm number</a>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**protocol** *keyword*

<b>Description</b>	The protocol that provided the prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix (ipv4-prefix   ipv6-prefix) sid-label-value number protocol keyword protocol-instance number protocol-multi-topology number algorithm number</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• isis</li> <li>• direct</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **protocol-instance** *number*

<b>Description</b>	The instance ID that provided the prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">protocol keyword</a> <a href="#">protocol-instance</a> <i>number</i> <a href="#">protocol-multi-topology</a> <i>number</i> <a href="#">algorithm</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **protocol-multi-topology** *number*

<b>Description</b>	The multi-topology ID that provided the prefix SID
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">protocol keyword</a> <a href="#">protocol-instance</a> <i>number</i> <a href="#">protocol-multi-topology</a> <i>number</i> <a href="#">algorithm</a> <i>number</i>
<b>Range</b>	0 to 4095
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **algorithm** *number*

<b>Description</b>	Contains the identifier of the algorithm the router uses to compute the reachability of the prefix to which the Prefix-SID is associated
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">protocol keyword</a> <a href="#">protocol-instance</a> <i>number</i> <a href="#">protocol-multi-topology</a> <i>number</i> <a href="#">algorithm</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **active** *boolean*

<b>Description</b>	When false, the prefix SID is inactive. It could be inactive because it is involved in a prefix or SID conflict that occurred between different protocol-instance. It could also be inactive because datapath programming failed.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">protocol keyword</a> <a href="#">protocol-instance</a> <i>number</i> <a href="#">protocol-multi-topology</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">active</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **prefix-conflict** *boolean*

<b>Description</b>	Reads true when the prefix SID entry is involved in a prefix conflict that has occurred between protocols. This occurs when there are multiple entries in the SID database for the same prefix. All the conflicting entries become inactive except for the one with the smallest sid-index.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">protocol keyword</a> <a href="#">protocol-instance</a> <i>number</i> <a href="#">protocol-multi-topology</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">prefix-conflict</a> <i>boolean</i>
<b>Tree</b>	<a href="#">prefix-conflict</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **sid-conflict** *boolean*

<b>Description</b>	Reads true when the prefix SID entry is involved in a SID conflict that has occurred between protocols (after first removing inter-protocol prefix conflict entries). All entries involved in a SID conflict that do not have the absolute lowest 'preference' value become inactive. In the SRL implementation local-prefix-sid entries are considered to have a lower numerical preference than remote prefix-sid entries. If there are still SID conflicts then all the remaining conflicting entries become inactive except for the one with the smallest sid-index.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">segment-routing mpls sid-database prefix-sid prefix</a> ( <a href="#">ipv4-prefix</a>   <a href="#">ipv6-prefix</a> ) <a href="#">sid-label-value</a> <i>number</i> <a href="#">protocol keyword</a> <a href="#">protocol-instance</a> <i>number</i> <a href="#">protocol-multi-topology</a> <i>number</i> <a href="#">algorithm</a> <i>number</i> <a href="#">sid-conflict</a> <i>boolean</i>
<b>Tree</b>	<a href="#">sid-conflict</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**static-routes**

<b>Description</b>	Enable the static-routes context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes</a>
<b>Tree</b>	<a href="#">static-routes</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Enter the admin-state context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes</a> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**route** [prefix](#) (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	Enter the route list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes</a> <a href="#">route</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Tree</b>	<a href="#">route</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	16384

**prefix** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	Enter the prefix context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes</a> <a href="#">route</a> <a href="#">prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Used to disable the static route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**installed** *boolean*

<b>Description</b>	If set to true, this indicates that the static route was installed into the datapath. If this is false then there are 3 possible reasons: (a) the admin-state is disable (b) there is another IP route for the same prefix that has a superior preference (c) the next-hop-group has no resolvable next-hops
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">installed</a> <i>boolean</i>
<b>Tree</b>	<a href="#">installed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**metric** *number*

<b>Description</b>	IGP metric of the static route.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes route prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**next-hop-group** *reference*

<b>Description</b>	Enter the next-hop-group context
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes route prefix</a> ( <i>ipv4-prefix   ipv6-prefix</i> ) <a href="#">next-hop-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">next-hop-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">next-hop-groups group name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **preference** *number*

<b>Description</b>	Route preference with lower values indicating a higher degree of preference.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">static-routes route prefix</a> ( <i>ipv4-prefix   ipv6-prefix</i> ) <a href="#">preference</a> <i>number</i>
<b>Tree</b>	<a href="#">preference</a>
<b>Range</b>	0 to 255
<b>Default</b>	5
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **system-ipv4-address**

<b>Description</b>	Container for displaying information about the system IPv4 address of the default network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">system-ipv4-address</a>
<b>Tree</b>	<a href="#">system-ipv4-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-down-reason** *keyword*

<b>Description</b>	The reason why the default network instance does not have a system IPv4 address
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">system-ipv4-address oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">system-interface-not-bound</a></li> <li>• <a href="#">system-interface-has-no-ipv4-address</a></li> </ul>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of the system IPv4 address binding
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">system-ipv4-address</a> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting</li> </ul>

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## system-ipv6-address

<b>Description</b>	Container for displaying information about the system IPv6 address of the default network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">system-ipv6-address</a>
<b>Tree</b>	<a href="#">system-ipv6-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## oper-down-reason *keyword*

<b>Description</b>	The reason why the default network instance does not have a system IPv6 address
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">system-ipv6-address</a> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>system-interface-not-bound</code></li> <li>• <code>system-interface-has-no-ipv6-address</code></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## oper-state *keyword*

<b>Description</b>	The operational state of the system IPv6 address binding
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">system-ipv6-address</a> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>up</code> Component or process is operational</li> <li>• <code>down</code> Component or process is not operational</li> <li>• <code>empty</code></li> </ul>

- Component slot is empty
- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**tcp****Description**

State for TCP connections that have been established or could be established using the route tables of this network instance.

**Context**[network-instance name](#) *string* [tcp](#)**Tree**[tcp](#)**Configurable**

False

**Platforms** Supported on all platforms

**connection** *local-address* (*ipv4-address* | *ipv6-address*) *local-port number* *remote-address* (*ipv4-address* | *ipv6-address*) *remote-port number*

**Description** List of TCP connections that are established or that are in the process of being established – i.e. excluding those in the LISTEN state. An entry in this list is transient in that it ceases to exist when (or soon after) the connection makes the transition to the CLOSED state.

**Context** *network-instance name string tcp connection local-address* (*ipv4-address* | *ipv6-address*) *local-port number* *remote-address* (*ipv4-address* | *ipv6-address*) *remote-port number*

**Tree** *connection*

**Configurable** False

**Platforms** Supported on all platforms

**local-address** (*ipv4-address* | *ipv6-address*)

**Description** The local IP address for this TCP connection.

**Context** *network-instance name string tcp connection local-address* (*ipv4-address* | *ipv6-address*) *local-port number* *remote-address* (*ipv4-address* | *ipv6-address*) *remote-port number*

**Configurable** False

**Platforms** Supported on all platforms

**local-port** *number*

**Description** The local port number for this TCP connection.

**Context** *network-instance name string tcp connection local-address* (*ipv4-address* | *ipv6-address*) *local-port number* *remote-address* (*ipv4-address* | *ipv6-address*) *remote-port number*

**Range** 0 to 65535

**Configurable** False

**Platforms** Supported on all platforms

**remote-address** (*ipv4-address* | *ipv6-address*)

**Description** The remote IP address for this TCP connection.

**Context** [network-instance name](#) [string](#) [tcp connection](#) [local-address](#) ([ipv4-address](#) | [ipv6-address](#)) [local-port](#) [number](#) [remote-address](#) ([ipv4-address](#) | [ipv6-address](#)) [remote-port](#) [number](#)

**Configurable** False

**Platforms** Supported on all platforms

### **remote-port** *number*

**Description** The remote port number for this TCP connection.

**Context** [network-instance name](#) [string](#) [tcp connection](#) [local-address](#) ([ipv4-address](#) | [ipv6-address](#)) [local-port](#) [number](#) [remote-address](#) ([ipv4-address](#) | [ipv6-address](#)) [remote-port](#) [number](#)

**Range** 0 to 65535

**Configurable** False

**Platforms** Supported on all platforms

### **process-id** *number*

**Description** The process ID of the application that owns the socket.

**Context** [network-instance name](#) [string](#) [tcp connection](#) [local-address](#) ([ipv4-address](#) | [ipv6-address](#)) [local-port](#) [number](#) [remote-address](#) ([ipv4-address](#) | [ipv6-address](#)) [remote-port](#) [number](#) [process-id](#) [number](#)

**Tree** [process-id](#)

**Configurable** False

**Platforms** Supported on all platforms

### **session-state** *keyword*

**Description** The state of this TCP connection.

**Context** [network-instance name](#) [string](#) [tcp connection](#) [local-address](#) ([ipv4-address](#) | [ipv6-address](#)) [local-port](#) [number](#) [remote-address](#) ([ipv4-address](#) | [ipv6-address](#)) [remote-port](#) [number](#) [session-state](#) [keyword](#)

**Tree** [session-state](#)

**Options**

- closed
- syn-sent
- syn-received
- established
- fin-wait1

- fin-wait2
- close-wait
- last-ack
- closing
- time-wait
- delete-tcb

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### listening-application [local-address](#) (*ipv4-address* | *ipv6-address*) [local-port](#) *number*

<b>Description</b>	List of applications that are listening on a particular TCP port bound to the network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp listening-application</a> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">local-port</a> <i>number</i>
<b>Tree</b>	<a href="#">listening-application</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### local-address (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The local IP address accepted by the application. An all-zeroes value for the ipv4-address means that any IPv4 address is accepted. An all-zeroes value for the ipv6-address means that any IPv6 address is accepted.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp listening-application</a> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">local-port</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### local-port *number*

<b>Description</b>	The local port number accepted by the application.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp listening-application</a> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">local-port</a> <i>number</i>
<b>Range</b>	0 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**process-id** *number*

<b>Description</b>	The process ID of the application that owns the socket.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp listening-application local-address</a> ( <i>ipv4-address   ipv6-address</i> ) <a href="#">local-port</a> <i>number</i> <a href="#">process-id</a> <i>number</i>
<b>Tree</b>	<a href="#">process-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-opens** *number*

<b>Description</b>	The total number of times that TCP connections have made a direct transition to the SYN-SENT state from the CLOSED state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics active-opens</a> <i>number</i>
<b>Tree</b>	<a href="#">active-opens</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**attempt-fails** *number*

<b>Description</b>	The total number of times that TCP connections have made a direct transition to the CLOSED state from either the SYN-SENT state or the SYN-RCVD state, plus the number of times that TCP connections have made a direct transition to the LISTEN state from the SYN-RCVD state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics attempt-fails</a> <i>number</i>
<b>Tree</b>	<a href="#">attempt-fails</a>
<b>Default</b>	0
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### **established-resets** *number*

**Description** The total number of times that TCP connections have made a direct transition to the CLOSED state from either the ESTABLISHED state or the CLOSE-WAIT state.

**Context** [network-instance name](#) *string* [tcp statistics established-resets](#) *number*

**Tree** [established-resets](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **in-checksum-errors** *number*

**Description** The total number of segments that are received as bad TCP checksum errors.

**Context** [network-instance name](#) *string* [tcp statistics in-checksum-errors](#) *number*

**Tree** [in-checksum-errors](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **in-error-segments** *number*

**Description** The total number of segments received in error (e.g., bad TCP checksums).

**Context** [network-instance name](#) *string* [tcp statistics in-error-segments](#) *number*

**Tree** [in-error-segments](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **in-segments** *number*

**Description** The total number of segments received, including those received in error. This count includes segments received on currently established connections.

**Context** [network-instance name](#) *string* [tcp statistics in-segments](#) *number*

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<b>Tree</b>	<a href="#">in-segments</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-rst-segments** *number*

<b>Description</b>	The total number of TCP segments sent containing the RST flag.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics out-rst-segments</a> <i>number</i>
<b>Tree</b>	<a href="#">out-rst-segments</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **out-segments** *number*

<b>Description</b>	The total number of segments sent, including those on current connections but excluding those containing only retransmitted octets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics out-segments</a> <i>number</i>
<b>Tree</b>	<a href="#">out-segments</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **passive-opens** *number*

<b>Description</b>	The total number of times TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics passive-opens</a> <i>number</i>
<b>Tree</b>	<a href="#">passive-opens</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**retransmitted-segments** *number*

<b>Description</b>	The total number of segments retransmitted; that is, the number of TCP segments transmitted containing one or more previously transmitted octets.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tcp statistics</a> <a href="#">retransmitted-segments</a> <i>number</i>
<b>Tree</b>	<a href="#">retransmitted-segments</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tunnel-table**

<b>Description</b>	Enter the tunnel-table context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a>
<b>Tree</b>	<a href="#">tunnel-table</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4**

<b>Description</b>	The container for the IPv4 tunnels associated with the network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a>
<b>Tree</b>	<a href="#">ipv4</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-tunnels** *number*

<b>Description</b>	The total number of tunnels, belonging to this address family, that are active.
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">active-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">active-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**inactive-tunnels** *number*

<b>Description</b>	The total number of tunnels, belonging to this address family, that are inactive (not programmed).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">inactive-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">inactive-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-tunnels** *number*

<b>Description</b>	The total number of tunnels, active and inactive, belonging to this address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">statistics</a> <a href="#">total-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">total-tunnels</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tunnel** [ipv4-prefix](#) *string* [type](#) [identityref](#) [owner](#) *string* [id](#) *number*

<b>Description</b>	Enter the tunnel list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">tunnel</a> <a href="#">ipv4-prefix</a> <i>string</i> <a href="#">type</a> <a href="#">identityref</a> <a href="#">owner</a> <i>string</i> <a href="#">id</a> <i>number</i>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv4-prefix** *string*

<b>Description</b>	The IPv4 prefix associated with the endpoint of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *identityref*

<b>Description</b>	The tunnel (encapsulation) type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-in-ip Tunnels with IP-in-IP encapsulation</li> <li>• sr-isis Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• sr-policy-mpls-colored Tunnel setup using TE-POLICY.</li> <li>• sr-policy-mpls-uncolored Tunnel setup using TE-POLICY.</li> <li>• vxlan Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**owner** *string*

<b>Description</b>	The name of the application that submitted the tunnel to TTM
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id number**

<b>Description</b>	An owner-assigned index value that is unique for each of the tunnels terminating at a particular prefix.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**encapsulation-type keyword**

<b>Description</b>	The type of encapsulation used by the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number encapsulation-type keyword</i>
<b>Tree</b>	<a href="#">encapsulation-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• vxlan</li> <li>• mpls</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fib-programming**

<b>Description</b>	Container for state related to the FIB programming of the tunnel
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number fib-programming</i>
<b>Tree</b>	<a href="#">fib-programming</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**not-programmed-reason keyword**

<b>Description</b>	The reason why the tunnel is not programmed
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number fib-programming not-programmed-reason keyword</i>
<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• out-of-tunnel-resources</li> </ul>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **status** *keyword*

<b>Description</b>	The status of the tunnel programming
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string</i> <a href="#">id number</a> <a href="#">fib-programming status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• active The tunnel is active and programmed into the datapath.</li> <li>• inactive The tunnel is inactive and not programmed into the datapath.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ip-in-ip**

<b>Description</b>	Enter the ip-in-ip context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string</i> <a href="#">id number</a> <a href="#">ip-in-ip</a>
<b>Tree</b>	<a href="#">ip-in-ip</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **destination-address** (*ipv4-address | ipv6-address*)

<b>Description</b>	The IP address that identifies the destination of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string</i> <a href="#">id number</a> <a href="#">ip-in-ip destination-address</a> ( <i>ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">destination-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the source of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref owner</a> <i>string</i> <a href="#">id number ip-in-ip source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-app-update** *string*

<b>Description</b>	The date and time of the last update of this tunnel by the owning application or protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref owner</a> <i>string</i> <a href="#">id number last-app-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-app-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**metric** *number*

<b>Description</b>	The metric of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref owner</a> <i>string</i> <a href="#">id number metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group** *reference*

<b>Description</b>	Leaf reference to a next-hop-group that has the direct next-hops towards the tunnel far-end
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref owner</a> <i>string</i> <a href="#">id number next-hop-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">next-hop-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table next-hop-group index</a> <i>number</i>



<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### preference *number*

<b>Description</b>	The tunnel table preference.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number preference number</i>
<b>Tree</b>	<a href="#">preference</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### vxlan

<b>Description</b>	Enter the vxlan context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number vxlan</i>
<b>Tree</b>	<a href="#">vxlan</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### destination-address (*ipv4-address | ipv6-address*)

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number vxlan destination-address (ipv4-address   ipv6-address)</i>
<b>Tree</b>	<a href="#">destination-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### destination-udp-port *number*

<b>Description</b>	The destination UDP port number written into the outer IP/UDP header of VXLAN packets associated with this tunnel and originated by this router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string type identityref owner string id number vxlan destination-udp-port number</i>

<b>Tree</b>	<a href="#">destination-udp-port</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the local VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string</i> <a href="#">type identityref owner</a> <i>string</i> <a href="#">id number vxlan source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **time-to-live** *number*

<b>Description</b>	The Time To Live (TTL) value written into the outer IP header of VXLAN packets associated with this tunnel and originated by this router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel ipv4-prefix</a> <i>string</i> <a href="#">type identityref owner</a> <i>string</i> <a href="#">id number vxlan time-to-live</a> <i>number</i>
<b>Tree</b>	<a href="#">time-to-live</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tunnel-summary**

<b>Description</b>	Tunnel summary information
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel-summary</a>
<b>Tree</b>	<a href="#">tunnel-summary</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tunnel-type** [type](#) *identityref*

<b>Description</b>	Enter the tunnel-type list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4 tunnel-summary tunnel-type</a> <a href="#">type</a> <i>identityref</i>

<b>Tree</b>	<a href="#">tunnel-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *identityref*

<b>Description</b>	Tunneling encapsulation format
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">tunnel-summary</a> <a href="#">tunnel-type</a> <a href="#">type identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ip-in-ip</a> Tunnels with IP-in-IP encapsulation</li> <li>• <a href="#">sr-isis</a> Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• <a href="#">sr-ospfv2</a> Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• <a href="#">sr-ospfv3</a> Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• <a href="#">sr-policy-mpls-colored</a> Tunnel setup using TE-POLICY.</li> <li>• <a href="#">sr-policy-mpls-uncolored</a> Tunnel setup using TE-POLICY.</li> <li>• <a href="#">vxlan</a> Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-tunnels** *number*

<b>Description</b>	The total number of tunnels, using this encapsulation type, that are active.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv4</a> <a href="#">tunnel-summary</a> <a href="#">tunnel-type</a> <a href="#">type identityref</a> <a href="#">active-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">active-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**inactive-tunnels** *number*

<b>Description</b>	The total number of tunnels, using this encapsulation type, that are inactive (not programmed).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4</a> <a href="#">tunnel-summary tunnel-type type</a> <a href="#">identityref inactive-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">inactive-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-tunnels** *number*

<b>Description</b>	The total number of tunnels, active and inactive, using this encapsulation type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv4</a> <a href="#">tunnel-summary tunnel-type type</a> <a href="#">identityref total-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">total-tunnels</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv6**

<b>Description</b>	The container for the IPv6 tunnels associated with the network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6</a>
<b>Tree</b>	<a href="#">ipv6</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-tunnels** *number*

<b>Description</b>	The total number of tunnels, belonging to this address family, that are active.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6</a> <a href="#">statistics</a> <a href="#">active-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">active-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**inactive-tunnels** *number*

<b>Description</b>	The total number of tunnels, belonging to this address family, that are inactive (not programmed).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6</a> <a href="#">statistics</a> <a href="#">inactive-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">inactive-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-tunnels** *number*

<b>Description</b>	The total number of tunnels, active and inactive, belonging to this address family
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6</a> <a href="#">statistics</a> <a href="#">total-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">total-tunnels</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tunnel** [ipv6-prefix](#) *string* [type](#) [identityref](#) [owner](#) *string* [id](#) *number*

<b>Description</b>	Enter the tunnel list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6</a> <a href="#">tunnel</a> <a href="#">ipv6-prefix</a> <i>string</i> <a href="#">type</a> <a href="#">identityref</a> <a href="#">owner</a> <i>string</i> <a href="#">id</a> <i>number</i>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ipv6-prefix** *string*

<b>Description</b>	The IPv6 prefix associated with the endpoint of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *identityref*

<b>Description</b>	The tunnel (encapsulation) type
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-in-ip Tunnels with IP-in-IP encapsulation</li> <li>• sr-isis Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• sr-policy-mpls-colored Tunnel setup using TE-POLICY.</li> <li>• sr-policy-mpls-uncolored Tunnel setup using TE-POLICY.</li> <li>• vxlan Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**owner** *string*

<b>Description</b>	The name of the application that submitted the tunnel to TTM
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number</i>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **id number**

**Description** An owner-assigned index value that is unique for each of the tunnels terminating at a particular prefix.

**Context** [network-instance name string](#) [tunnel-table ipv6 tunnel ipv6-prefix string type identityref owner string id number](#)

**Configurable** False

**Platforms** Supported on all platforms

### **encapsulation-type keyword**

**Description** The type of encapsulation used by the tunnel.

**Context** [network-instance name string](#) [tunnel-table ipv6 tunnel ipv6-prefix string type identityref owner string id number encapsulation-type keyword](#)

**Tree** [encapsulation-type](#)

**Options**

- vxlan
- mpls

**Configurable** False

**Platforms** Supported on all platforms

### **fib-programming**

**Description** Container for state related to the FIB programming of the tunnel

**Context** [network-instance name string](#) [tunnel-table ipv6 tunnel ipv6-prefix string type identityref owner string id number fib-programming](#)

**Tree** [fib-programming](#)

**Configurable** False

**Platforms** Supported on all platforms

### **not-programmed-reason keyword**

**Description** The reason why the tunnel is not programmed

**Context** [network-instance name string](#) [tunnel-table ipv6 tunnel ipv6-prefix string type identityref owner string id number fib-programming not-programmed-reason keyword](#)

<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">out-of-tunnel-resources</a></li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **status** *keyword*

<b>Description</b>	The status of the tunnel programming
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6 tunnel</a> <a href="#">ipv6-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref</a> <a href="#">owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">fib-programming</a> <a href="#">status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">active</a> The tunnel is active and programmed into the datapath.</li> <li>• <a href="#">inactive</a> The tunnel is inactive and not programmed into the datapath.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **ip-in-ip**

<b>Description</b>	Enter the ip-in-ip context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6 tunnel</a> <a href="#">ipv6-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref</a> <a href="#">owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">ip-in-ip</a>
<b>Tree</b>	<a href="#">ip-in-ip</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **destination-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the destination of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6 tunnel</a> <a href="#">ipv6-prefix</a> <i>string</i> <i>type</i> <a href="#">identityref</a> <a href="#">owner</a> <i>string</i> <a href="#">id</a> <i>number</i> <a href="#">ip-in-ip</a> <a href="#">destination-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">destination-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the source of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string id number</i> <a href="#">ip-in-ip source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-app-update** *string*

<b>Description</b>	The date and time of the last update of this tunnel by the owning application or protocol.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string id number</i> <a href="#">last-app-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-app-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**metric** *number*

<b>Description</b>	The metric of the tunnel.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string id number</i> <a href="#">metric</a> <i>number</i>
<b>Tree</b>	<a href="#">metric</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group** *reference*

<b>Description</b>	Leaf reference to a next-hop-group that has the direct next-hops towards the tunnel far-end
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref</i> <a href="#">owner</a> <i>string id number</i> <a href="#">next-hop-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">next-hop-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">route-table next-hop-group index</a> <i>number</i>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**preference** *number*

<b>Description</b>	The tunnel table preference.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number preference number</i>
<b>Tree</b>	<a href="#">preference</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**vxlan**

<b>Description</b>	Enter the vxlan context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number vxlan</i>
<b>Tree</b>	<a href="#">vxlan</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**destination-address** (*ipv4-address | ipv6-address*)

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number vxlan destination-address (ipv4-address   ipv6-address)</i>
<b>Tree</b>	<a href="#">destination-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**destination-udp-port** *number*

<b>Description</b>	The destination UDP port number written into the outer IP/UDP header of VXLAN packets associated with this tunnel and originated by this router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string type identityref owner string id number vxlan destination-udp-port number</i>

<b>Tree</b>	<a href="#">destination-udp-port</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### source-address (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the local VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string</i> <a href="#">type identityref owner</a> <i>string</i> <a href="#">id number vxlan source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### time-to-live *number*

<b>Description</b>	The Time To Live (TTL) value written into the outer IP header of VXLAN packets associated with this tunnel and originated by this router.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel ipv6-prefix</a> <i>string</i> <a href="#">type identityref owner</a> <i>string</i> <a href="#">id number vxlan time-to-live</a> <i>number</i>
<b>Tree</b>	<a href="#">time-to-live</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### tunnel-summary

<b>Description</b>	Tunnel summary information
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel-summary</a>
<b>Tree</b>	<a href="#">tunnel-summary</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### tunnel-type [type](#) *identityref*

<b>Description</b>	Enter the tunnel-type list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel-summary tunnel-type</a> <a href="#">type</a> <i>identityref</i>

<b>Tree</b>	<a href="#">tunnel-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *identityref*

<b>Description</b>	Tunneling encapsulation format
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6</a> <a href="#">tunnel-summary</a> <a href="#">tunnel-type</a> <a href="#">type identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ip-in-ip</a> Tunnels with IP-in-IP encapsulation</li> <li>• <a href="#">sr-isis</a> Segment routing using MPLS dataplane, programmed by IS-IS</li> <li>• <a href="#">sr-ospfv2</a> Segment routing using MPLS dataplane, programmed by OSPFv2</li> <li>• <a href="#">sr-ospfv3</a> Segment routing using MPLS dataplane, programmed by OSPFv3</li> <li>• <a href="#">sr-policy-mpls-colored</a> Tunnel setup using TE-POLICY.</li> <li>• <a href="#">sr-policy-mpls-uncolored</a> Tunnel setup using TE-POLICY.</li> <li>• <a href="#">vxlan</a> Tunnels based on VXLAN encapsulation</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-tunnels** *number*

<b>Description</b>	The total number of tunnels, using this encapsulation type, that are active.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table</a> <a href="#">ipv6</a> <a href="#">tunnel-summary</a> <a href="#">tunnel-type</a> <a href="#">type identityref</a> <a href="#">active-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">active-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**inactive-tunnels** *number*

<b>Description</b>	The total number of tunnels, using this encapsulation type, that are inactive (not programmed).
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel-summary tunnel-type type</a> <a href="#">identityref</a> <a href="#">inactive-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">inactive-tunnels</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-tunnels** *number*

<b>Description</b>	The total number of tunnels, active and inactive, using this encapsulation type.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">tunnel-table ipv6 tunnel-summary tunnel-type type</a> <a href="#">identityref</a> <a href="#">total-tunnels</a> <i>number</i>
<b>Tree</b>	<a href="#">total-tunnels</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *identityref*

<b>Description</b>	The type of network instance. The value of this leaf indicates the type of forwarding entries that should be supported by this network instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">type</a>
<b>Default</b>	default
<b>Options</b>	<ul style="list-style-type: none"> <li>• host A special routing instances that refers to the hosts network instance (i.e. the network namespace of PID 1)</li> <li>• default A special routing instance which acts as the 'default' routing instance for a network device.</li> <li>• ip-vrf A private Layer 3 only routing instance.</li> <li>• mac-vrf A private Layer 2 only switching instance.</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## udp

<b>Description</b>	State for UDP datagrams routed using the route tables of this network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp</a>
<b>Tree</b>	<a href="#">udp</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## listening-application [local-address](#) (*ipv4-address* | *ipv6-address*) [local-port](#) *number*

<b>Description</b>	List of applications that are listening on a particular UDP port bound to the network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp</a> <a href="#">listening-application</a> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">local-port</a> <i>number</i>
<b>Tree</b>	<a href="#">listening-application</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## local-address (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The local IP address accepted by the application. An all-zeroes value for the <i>ipv4-address</i> means that any IPv4 address is accepted. An all-zeroes value for the <i>ipv6-address</i> means that any IPv6 address is accepted.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp</a> <a href="#">listening-application</a> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">local-port</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## local-port *number*

<b>Description</b>	The local port number accepted by the application.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp</a> <a href="#">listening-application</a> <a href="#">local-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">local-port</a> <i>number</i>
<b>Range</b>	0 to 65535

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**process-id** *number*

<b>Description</b>	The process ID of the application that owns the socket.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp listening-application local-address</a> ( <i>ipv4-address   ipv6-address</i> ) <a href="#">local-port</a> <i>number</i> <a href="#">process-id</a> <i>number</i>
<b>Tree</b>	<a href="#">process-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ignored-multicast-packets** *number*

<b>Description</b>	The total number of ignored multicast UDP datagrams.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics ignored-multicast-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">ignored-multicast-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-checksum-errors** *number*

<b>Description</b>	Increased when a received UDP packet has an invalid checksum.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics in-checksum-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">in-checksum-errors</a>
<b>Default</b>	0

---

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-error-packets** *number*

<b>Description</b>	The total number of received UDP datagrams that could not be delivered for reasons other than the lack of an application at the destination port.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics in-error-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-error-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-no-open-ports-packets** *number*

<b>Description</b>	The total number of received UDP datagrams for which there was no application at the destination port.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics in-no-open-ports-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-no-open-ports-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-packets** *number*

<b>Description</b>	The total number of UDP datagrams delivered to UDP users.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**out-packets** *number*

<b>Description</b>	The total number of UDP datagrams sent from this network instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics out-packets</a> <i>number</i>



<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### receive-buffer-errors *number*

<b>Description</b>	Increased when memory cannot be allocated to process an incoming UDP packet.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics</a> <a href="#">receive-buffer-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">receive-buffer-errors</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### send-buffer-errors *number*

<b>Description</b>	Increased when memory cannot be allocated to send a UDP packet.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">udp statistics</a> <a href="#">send-buffer-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">send-buffer-errors</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### vxlan-interface [name](#) *string*

<b>Description</b>	List of vxlan-interfaces used by this network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">vxlan-interface</a> <a href="#">name</a> <i>string</i>
<b>Tree</b>	<a href="#">vxlan-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1

**name** *string*

<b>Description</b>	Identifier of vxlan-interface used in this network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">vxlan-interface name</a> <i>string</i>
<b>String Length</b>	8 to 17
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-down-reason** *keyword*

<b>Description</b>	The reason for the vxlan-interface being down in the network-instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">vxlan-interface name</a> <i>string</i> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• vxlan-tunnel-down</li> <li>• net-inst-down</li> <li>• vxlan-if-default-net-inst-source-address-missing</li> <li>• vxlan-if-default-net-inst-source-if-down</li> <li>• vrf-type-mismatch</li> <li>• no-mcid</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-state** *keyword*

<b>Description</b>	The operational state of this vxlan-interface.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">vxlan-interface name</a> <i>string</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> </ul>

- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## 7 platform

```

platform
+ chassis
- clei-code string
- failure-reason string
- hw-mac-address string
- last-boot-type string
- last-booted string
- last-change string
- manufactured-date string
- oper-state keyword
- part-number string
+ power
- control
  - peak number
  - required number
  - used number
- fabric
  - peak number
  - required number
  - used number
- fan-tray
  - peak number
  - required number
  - used number
- linecard
  - peak number
  - required number
  - used number
- total
  - capacity number
  - peak number
  - required number
  - used number
- rebooting-at string
- removable boolean
+ secondary-mac-address string
- serial-number string
- slots number
- type string
+ control slot string
- cgroup name string
- cpuacct-statistics
  - system number
  - user number
- memory-statistics
  - anon number
  - anon-thp number
  - current number
  - current-swap number
  - file number
  - file-dirty number
  - file-writeback number
  - kernel-stack number
  - memory-events
    - high number
    - low number

```

```

    - max number
    - oom number
    - oom-kill number
  - slab number
  - sock number
- clei-code string
- cpu index (keyword | number)
  - architecture keyword
  - hardware-interrupt
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - idle
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - iowait
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - nice
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - software-interrupt
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - speed decimal-number
  - system
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - total
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
  - type string
  - user
    - average-1 number
    - average-15 number
    - average-5 number
    - instant number
- disk name string
  - model-number string
  - partition name string
    - free number
    - mount-point string
    - mount-status keyword
    - percent-used number
    - size number
    - used number
    - uuid string
  - serial-number string
  - size number
  - statistics
    - read-per-second decimal-number

```

```

- transfers-per-second decimal-number
- utilization number
- written-per-second decimal-number
- type keyword
- failure-reason string
- last-booted string
- last-change string
- locator-state keyword
- manufactured-date string
- memory
- free number
- physical number
- reserved number
- utilization number
- oper-state keyword
- part-number string
- power
- required number
- used number
- process pid number
- args string
- cpu-utilization number
- memory-usage number
- memory-utilization number
- name string
- start-time string
- rebooting-at string
- removable boolean
- role keyword
- serial-number string
- software-version string
- temperature
- alarm-status boolean
- instant number
- margin number
- type string
+ fabric slot number
+ admin-state keyword
- clei-code string
- failure-reason string
- last-booted string
- last-change string
- locator-state keyword
- manufactured-date string
- oper-state keyword
- part-number string
- power
- required number
- used number
- rebooting-at string
- removable boolean
- serial-number string
- temperature
- alarm-status boolean
- instant number
- margin number
- type string
- fan-tray id number
- clei-code string
- failure-reason string
- last-booted string
- last-change string
- locator-state keyword
- manufactured-date string

```

```

- oper-reason keyword
- oper-state keyword
- part-number string
- power
  - required number
  - used number
- removable boolean
- serial-number string
- speed number
- type string
+ linecard slot number
+ admin-state keyword
- clei-code string
- failure-reason string
+ forwarding-complex name keyword
  - acl
    - resource name identityref
    - free number
    - used number
  + buffer-memory
    - dram
      - used number
      - free number
      - reserved number
    - sram
      - free number
      - used number
      - used number
  - datapath
    - asic
      - resource name identityref
      - free-entries number
      - used-entries number
      - used-percent number
    - xdp
      - resource name identityref
      - free-entries number
      - used-entries number
      - used-percent number
  + fabric
    - availability number
    - utilization-egress number
    - utilization-ingress number
  - fib-table
    - next-hop-group index number
      - backup-active boolean
      - backup-next-hop-group reference
      - next-hop id number
        - next-hop number
        - oper-state keyword
        - oper-state keyword
    - mtu
      - resource name identityref
      - free number
      - used number
  + p4rt
    + id number
  + pipeline index (number | keyword)
    - datapath
      - xdp
        - resource name identityref
        - free-entries number
        - used-entries number
        - used-percent number

```

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- pipeline-counters
  - host-interface-block
    - packet-extraction
      - extracted-octets number
      - extracted-packets number
      - extraction-reason reason identityref
        - extracted-octets number
        - extracted-packets number
  - qos
    - resource name identityref
    - free number
    - used number
  - tcam
    - resource name identityref
    - free-dynamic number
    - free-static number
    - programmed number
    - reserved number
- last-booted string
- last-change string
- locator-state keyword
- manufactured-date string
- oper-state keyword
- part-number string
- power
  - required number
  - used number
- rebooting-at string
- removable boolean
- serial-number string
- software-version string
- temperature
  - alarm-status boolean
  - instant number
  - margin number
- type string
- power-supply id number
  - capacity number
  - clei-code string
  - failure-reason string
  - input
    - current decimal-number
    - power decimal-number
    - voltage decimal-number
  - last-booted string
  - last-change string
  - manufactured-date string
  - oper-reason keyword
  - oper-state keyword
  - part-number string
  - removable boolean
  - serial-number string
  - temperature
    - alarm-status boolean
    - instant number
  - type string
+ redundancy
  - active-module keyword
  - failover-time string
+ synchronization
  - last-synchronization string
+ overlay
  - last-synchronization string
  - next-synchronization string

```



```
    + synchronization-frequency number
    - state keyword
+ resource-management
+ tcam
+ unified-forwarding-resources
  - allocated-extra-ip-host-entries number
  - allocated-extra-mac-entries number
  + alpm keyword
  + ipv6-128bit-lpm-entries number
  + requested-extra-ip-host-entries number
  - xdp-restart-required boolean
+ resource-monitoring
+ acl
  + resource name identityref
  + falling-threshold-log number
  + rising-threshold-log number
+ datapath
+ asic
  + resource name identityref
  + falling-threshold-log number
  + rising-threshold-log number
+ xdp
  + resource name identityref
  + falling-threshold-log number
  + rising-threshold-log number
+ mtu
  + resource name identityref
  + falling-threshold-log number
  + rising-threshold-log number
+ qos
  + resource name identityref
  + falling-threshold-log number
  + rising-threshold-log number
+ tcam
  + resource name identityref
  + falling-threshold-log number
  + rising-threshold-log number
```

## 7.1 platform Descriptions

### platform

<b>Description</b>	Enclosing container for platform components
<b>Context</b>	<a href="#">platform</a>
<b>Tree</b>	<a href="#">platform</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### chassis

<b>Description</b>	Top-level container for chassis configuration and state
<b>Context</b>	<a href="#">platform chassis</a>
<b>Tree</b>	<a href="#">chassis</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### clei-code *string*

<b>Description</b>	The Common Language Identification Code for this component
<b>Context</b>	<a href="#">platform chassis clei-code string</a>
<b>Tree</b>	<a href="#">clei-code</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### failure-reason *string*

<b>Description</b>	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
<b>Context</b>	<a href="#">platform chassis failure-reason string</a>
<b>Tree</b>	<a href="#">failure-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**hw-mac-address** *string*

<b>Description</b>	The chassis MAC address Read from hardware, or derived from the systems UUID
<b>Context</b>	<a href="#">platform chassis hw-mac-address</a> <i>string</i>
<b>Tree</b>	<a href="#">hw-mac-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-boot-type** *string*

<b>Description</b>	The type of boot the chassis initialized from This field indicates what type of reboot occurred, whether it be warm, normal, or otherwise.
<b>Context</b>	<a href="#">platform chassis last-boot-type</a> <i>string</i>
<b>Tree</b>	<a href="#">last-boot-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-booted** *string*

<b>Description</b>	The date and time this component last booted For components that do not boot, this is the time the component was last discovered by the active control module
<b>Context</b>	<a href="#">platform chassis last-booted</a> <i>string</i>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-change** *string*

<b>Description</b>	The date and time this component last changed state
<b>Context</b>	<a href="#">platform chassis last-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **manufactured-date** *string*

<b>Description</b>	The date this component was manufactured
<b>Context</b>	<a href="#">platform chassis manufactured-date</a> <i>string</i>
<b>Tree</b>	<a href="#">manufactured-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of this component
<b>Context</b>	<a href="#">platform chassis oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> </ul>

- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### part-number *string*

<b>Description</b>	Part number for this component
<b>Context</b>	<a href="#">platform chassis part-number string</a>
<b>Tree</b>	<a href="#">part-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### power

<b>Description</b>	Top-level container for chassis-wide power state
<b>Context</b>	<a href="#">platform chassis power</a>
<b>Tree</b>	<a href="#">power</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### control

<b>Description</b>	Top-level container for power usage of control modules
<b>Context</b>	<a href="#">platform chassis power control</a>
<b>Tree</b>	<a href="#">control</a>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **peak number**

**Description** Peak power used  
**Context** [platform chassis power control peak number](#)  
**Tree** [peak](#)  
**Configurable** False  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **required number**

**Description** Power required to power on all present admin enabled components as part of power management  
**Context** [platform chassis power control required number](#)  
**Tree** [required](#)  
**Configurable** False  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **used number**

**Description** Used power  
**Context** [platform chassis power control used number](#)  
**Tree** [used](#)  
**Configurable** False  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **fabric**

**Description** Top-level container for power usage of fabric modules  
**Context** [platform chassis power fabric](#)  
**Tree** [fabric](#)  
**Configurable** False  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peak number**

<b>Description</b>	Peak power used
<b>Context</b>	<a href="#">platform chassis power fabric peak number</a>
<b>Tree</b>	<a href="#">peak</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**required number**

<b>Description</b>	Power required to power on all present admin enabled components as part of power management
<b>Context</b>	<a href="#">platform chassis power fabric required number</a>
<b>Tree</b>	<a href="#">required</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	Used power
<b>Context</b>	<a href="#">platform chassis power fabric used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fan-tray**

<b>Description</b>	Top-level container for power usage of fan-trays
<b>Context</b>	<a href="#">platform chassis power fan-tray</a>
<b>Tree</b>	<a href="#">fan-tray</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peak number**

<b>Description</b>	Peak power used
<b>Context</b>	<a href="#">platform chassis power fan-tray peak number</a>

<b>Tree</b>	<a href="#">peak</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**required number**

<b>Description</b>	Power required to power on all present admin enabled components as part of power management
<b>Context</b>	<a href="#">platform chassis power fan-tray required number</a>
<b>Tree</b>	<a href="#">required</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	Used power
<b>Context</b>	<a href="#">platform chassis power fan-tray used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**linecard**

<b>Description</b>	Top-level container for power usage of linecard modules
<b>Context</b>	<a href="#">platform chassis power linecard</a>
<b>Tree</b>	<a href="#">linecard</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**peak number**

<b>Description</b>	Peak power used
<b>Context</b>	<a href="#">platform chassis power linecard peak number</a>
<b>Tree</b>	<a href="#">peak</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**required number**

<b>Description</b>	Power required to power on all present admin enabled components as part of power management
<b>Context</b>	<a href="#">platform chassis power linecard required number</a>
<b>Tree</b>	<a href="#">required</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	Used power
<b>Context</b>	<a href="#">platform chassis power linecard used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**total**

<b>Description</b>	Top-level container for total power usage and capacity
<b>Context</b>	<a href="#">platform chassis power total</a>
<b>Tree</b>	<a href="#">total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**capacity number**

<b>Description</b>	Total power capacity provided by all power supplies
<b>Context</b>	<a href="#">platform chassis power total capacity number</a>
<b>Tree</b>	<a href="#">capacity</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**peak number**

<b>Description</b>	Peak power used
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<b>Context</b>	<a href="#">platform chassis power total peak</a> <i>number</i>
<b>Tree</b>	<a href="#">peak</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**required** *number*

<b>Description</b>	Power required to power on all present admin enabled components as part of power management
<b>Context</b>	<a href="#">platform chassis power total required</a> <i>number</i>
<b>Tree</b>	<a href="#">required</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used** *number*

<b>Description</b>	Used power
<b>Context</b>	<a href="#">platform chassis power total used</a> <i>number</i>
<b>Tree</b>	<a href="#">used</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**rebooting-at** *string*

<b>Description</b>	Indicates the date and time this component will reboot If empty, no delayed reboots are queued for this component. A non empty value implies that a delayed reboot operation has been triggered for this component, which can be aborted using 'tools platform <component> reboot cancel'.
<b>Context</b>	<a href="#">platform chassis rebooting-at</a> <i>string</i>
<b>Tree</b>	<a href="#">rebooting-at</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**removable** *boolean*

<b>Description</b>	Details if this component can be removed from the system
<b>Context</b>	<a href="#">platform chassis removable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">removable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**secondary-mac-address** *string*

<b>Description</b>	MAC address programmed as a secondary terminating MAC address on every IP interface, across all network instances  If an IP packet is received on a routed subinterface and it arrives with a DMAC equal to the secondary-mac-address then it is terminated and forwarded exactly the same way it would be forwarded if it had arrived on this subinterface with a DMAC equal to the subinterface MAC address.
<b>Context</b>	<a href="#">platform chassis secondary-mac-address</a> <i>string</i>
<b>Tree</b>	<a href="#">secondary-mac-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**serial-number** *string*

<b>Description</b>	The serial number for this component
<b>Context</b>	<a href="#">platform chassis serial-number</a> <i>string</i>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**slots** *number*

<b>Description</b>	The number of line card slots supported by the chassis
<b>Context</b>	<a href="#">platform chassis slots</a> <i>number</i>
<b>Tree</b>	<a href="#">slots</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *string*

<b>Description</b>	The chassis type
<b>Context</b>	<a href="#">platform chassis type</a> <i>string</i>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**control slot** *string*

<b>Description</b>	Top-level container for control module configuration and state
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i>
<b>Tree</b>	<a href="#">control</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**slot** *string*

<b>Description</b>	Slot identifier for the control module This is set to 'A' for systems without removable control modules.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**cgroup name** *string*

<b>Description</b>	List of cgroups present in the system
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i>
<b>Tree</b>	<a href="#">cgroup</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the cgroup, as defined by its directory location in the filesystem
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### cpuacct-statistics

<b>Description</b>	Top-level container for cgroup cpuacct statistics
<b>Context</b>	<a href="#">platform control slot string cgroup name string cpuacct-statistics</a>
<b>Tree</b>	<a href="#">cpuacct-statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### system *number*

<b>Description</b>	CPU usage user system
<b>Context</b>	<a href="#">platform control slot string cgroup name string cpuacct-statistics system number</a>
<b>Tree</b>	<a href="#">system</a>
<b>Units</b>	useconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### user *number*

<b>Description</b>	CPU usage user mode
<b>Context</b>	<a href="#">platform control slot string cgroup name string cpuacct-statistics user number</a>
<b>Tree</b>	<a href="#">user</a>
<b>Units</b>	useconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### memory-statistics

<b>Description</b>	Top-level container for cgroup memory statistics
<b>Context</b>	<a href="#">platform control slot string cgroup name string memory-statistics</a>
<b>Tree</b>	<a href="#">memory-statistics</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **anon number**

**Description** Amount of memory used in anonymous mappings such as brk(), sbrk(), and mmap(MAP\_ANONYMOUS)

**Context** [platform control slot](#) *string* [cgroup name](#) *string* [memory-statistics anon number](#)

**Tree** [anon](#)

**Units** bytes

**Configurable** False

**Platforms** Supported on all platforms

### **anon-thp number**

**Description** Amount of memory used in anonymous mappings backed by transparent hugepages

**Context** [platform control slot](#) *string* [cgroup name](#) *string* [memory-statistics anon-thp number](#)

**Tree** [anon-thp](#)

**Units** bytes

**Configurable** False

**Platforms** Supported on all platforms

### **current number**

**Description** The total amount of memory currently being used by the cgroup and its descendants. Read from memory.current

**Context** [platform control slot](#) *string* [cgroup name](#) *string* [memory-statistics current number](#)

**Tree** [current](#)

**Units** bytes

**Configurable** False

**Platforms** Supported on all platforms

**current-swap** *number*

<b>Description</b>	The total amount of swap currently being used by the cgroup and its descendants. Read from <code>memory.swap.current</code>
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics current-swap</a> <i>number</i>
<b>Tree</b>	<a href="#">current-swap</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**file** *number*

<b>Description</b>	Amount of memory used to cache filesystem data, including tmpfs and shared memory
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics file</a> <i>number</i>
<b>Tree</b>	<a href="#">file</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**file-dirty** *number*

<b>Description</b>	Amount of cached filesystem data that was modified but not yet written back to disk
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics file-dirty</a> <i>number</i>
<b>Tree</b>	<a href="#">file-dirty</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**file-writeback** *number*

<b>Description</b>	Amount of cached filesystem data that was modified and is currently being written back to disk
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics file-writeback</a> <i>number</i>

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<b>Tree</b>	<a href="#">file-writeback</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### kernel-stack *number*

<b>Description</b>	Amount of memory allocated to kernel stacks
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">kernel-stack number</a>
<b>Tree</b>	<a href="#">kernel-stack</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### memory-events

<b>Description</b>	Top-level container for cgroup memory events
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">memory-events</a>
<b>Tree</b>	<a href="#">memory-events</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### high *number*

<b>Description</b>	The number of times processes of the cgroup are throttled and routed to perform direct memory reclaim because the high memory boundary was exceeded.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">memory-events</a> <a href="#">high number</a>
<b>Tree</b>	<a href="#">high</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**low number**

<b>Description</b>	The number of times the cgroup is reclaimed due to high memory pressure even though its usage is under the low boundary.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">memory-events</a> <a href="#">low number</a>
<b>Tree</b>	<a href="#">low</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max number**

<b>Description</b>	The number of times the cgroup's memory usage was about to go over the max boundary
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">memory-events</a> <a href="#">max number</a>
<b>Tree</b>	<a href="#">max</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oom number**

<b>Description</b>	The number of time the cgroup's memory usage had reached the limit and allocation was about to fail
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">memory-events</a> <a href="#">oom number</a>
<b>Tree</b>	<a href="#">oom</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oom-kill number**

<b>Description</b>	The number of processes belonging to this cgroup killed by any kind of out-of-memory killer
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cgroup name</a> <i>string</i> <a href="#">memory-statistics</a> <a href="#">memory-events</a> <a href="#">oom-kill number</a>
<b>Tree</b>	<a href="#">oom-kill</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**slab number**

<b>Description</b>	Amount of memory used for storing in-kernel data structures
<b>Context</b>	<a href="#">platform control slot string cgroup name string memory-statistics slab number</a>
<b>Tree</b>	<a href="#">slab</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sock number**

<b>Description</b>	Amount of memory used in network transmission buffers
<b>Context</b>	<a href="#">platform control slot string cgroup name string memory-statistics sock number</a>
<b>Tree</b>	<a href="#">sock</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**clei-code string**

<b>Description</b>	The Common Language Identification Code for this component
<b>Context</b>	<a href="#">platform control slot string clei-code string</a>
<b>Tree</b>	<a href="#">clei-code</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**cpu index (keyword | number)**

<b>Description</b>	List of all CPUs in the system
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number)</a>
<b>Tree</b>	<a href="#">cpu</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**index** (*keyword | number*)

<b>Description</b>	CPU index for each processor core on the system On a single-core system, the index should be zero. The 'all' index signifies an aggregation of the CPU utilization statistics over all cores in the system.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> )
<b>Options</b>	<ul style="list-style-type: none"> <li>all Index value indicating all CPUs in the system</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**architecture** *keyword*

<b>Description</b>	Architecture supported by the CPU
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">architecture</a> <i>keyword</i>
<b>Tree</b>	<a href="#">architecture</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>x86_64</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**hardware-interrupt**

<b>Description</b>	Time spent servicing hardware interrupts
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">hardware-interrupt</a>
<b>Tree</b>	<a href="#">hardware-interrupt</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-1** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">hardware-interrupt</a> <a href="#">average-1</a> <i>number</i>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **average-15** *number*

**Description** The arithmetic mean value of this statistic over the last fifteen minutes

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword | number*) [hardware-interrupt](#) [average-15](#) *number*

**Tree** [average-15](#)

**Range** 0 to 100

**Configurable** False

**Platforms** Supported on all platforms

### **average-5** *number*

**Description** The arithmetic mean value of this statistic over the last five minutes

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword | number*) [hardware-interrupt](#) [average-5](#) *number*

**Tree** [average-5](#)

**Range** 0 to 100

**Configurable** False

**Platforms** Supported on all platforms

### **instant** *number*

**Description** The instantaneous percentage value

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword | number*) [hardware-interrupt](#) [instant](#) *number*

**Tree** [instant](#)

**Range** 0 to 100

**Configurable** False

**Platforms** Supported on all platforms

### **idle**

**Description** Time spent idle

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword | number*) [idle](#)

**Tree** [idle](#)

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-1** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">idle average-1</a> <i>number</i>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-15** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last fifteen minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">idle average-15</a> <i>number</i>
<b>Tree</b>	<a href="#">average-15</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-5** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">idle average-5</a> <i>number</i>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant** *number*

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">idle instant</a> <i>number</i>

<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## **iowait**

<b>Description</b>	Time spent idle, waiting for an outstanding disk I/O request
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) iowait</a>
<b>Tree</b>	<a href="#">iowait</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## **average-1 number**

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) iowait average-1 number</a>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## **average-15 number**

<b>Description</b>	The arithmetic mean value of this statistic over the last fifteen minutes
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) iowait average-15 number</a>
<b>Tree</b>	<a href="#">average-15</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## **average-5 number**

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
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<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) iowait average-5 number</a>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant number**

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) iowait instant number</a>
<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**nice**

<b>Description</b>	Time spent running low-priority (niced) user processes
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) nice</a>
<b>Tree</b>	<a href="#">nice</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-1 number**

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) nice average-1 number</a>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-15** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last fifteen minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">nice</a> <a href="#">average-15</a> <i>number</i>
<b>Tree</b>	<a href="#">average-15</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-5** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">nice</a> <a href="#">average-5</a> <i>number</i>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant** *number*

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">nice</a> <a href="#">instant</a> <i>number</i>
<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**software-interrupt**

<b>Description</b>	Time spent servicing software interrupts
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">software-interrupt</a>
<b>Tree</b>	<a href="#">software-interrupt</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**average-1** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">software-interrupt</a> <a href="#">average-1</a> <i>number</i>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-15** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last fifteen minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">software-interrupt</a> <a href="#">average-15</a> <i>number</i>
<b>Tree</b>	<a href="#">average-15</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-5** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">software-interrupt</a> <a href="#">average-5</a> <i>number</i>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant** *number*

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">software-interrupt</a> <a href="#">instant</a> <i>number</i>
<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **speed** *decimal-number*

<b>Description</b>	Capable speed of the CPU
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">speed</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">speed</a>
<b>Units</b>	gigahertz
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **system**

<b>Description</b>	Time spent executing at the system level This can otherwise be known as kernel time, and does not include time spent servicing hardware and software interrupts.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">system</a>
<b>Tree</b>	<a href="#">system</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **average-1** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword   number</i> ) <a href="#">system</a> <a href="#">average-1</a> <i>number</i>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **average-15** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last fifteen minutes
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<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) system average-15 number</a>
<b>Tree</b>	<a href="#">average-15</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-5 number**

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) system average-5 number</a>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant number**

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) system instant number</a>
<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total**

<b>Description</b>	Total CPU utilization
<b>Context</b>	<a href="#">platform control slot string cpu index (keyword   number) total</a>
<b>Tree</b>	<a href="#">total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-1** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last minute
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">total average-1</a> <i>number</i>
<b>Tree</b>	<a href="#">average-1</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-15** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last fifteen minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">total average-15</a> <i>number</i>
<b>Tree</b>	<a href="#">average-15</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-5** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">total average-5</a> <i>number</i>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant** *number*

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">total instant</a> <i>number</i>
<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **type** *string*

**Description** Model name of the CPU

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword* | *number*) [type](#) *string*

**Tree** [type](#)

**Configurable** False

**Platforms** Supported on all platforms

### **user**

**Description** Time spent executing at the user level  
This can otherwise be known as application or user space time.

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword* | *number*) [user](#)

**Tree** [user](#)

**Configurable** False

**Platforms** Supported on all platforms

### **average-1** *number*

**Description** The arithmetic mean value of this statistic over the last minute

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword* | *number*) [user](#) [average-1](#) *number*

**Tree** [average-1](#)

**Range** 0 to 100

**Configurable** False

**Platforms** Supported on all platforms

### **average-15** *number*

**Description** The arithmetic mean value of this statistic over the last fifteen minutes

**Context** [platform control slot](#) *string* [cpu index](#) (*keyword* | *number*) [user](#) [average-15](#) *number*

**Tree** [average-15](#)

**Range** 0 to 100

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**average-5** *number*

<b>Description</b>	The arithmetic mean value of this statistic over the last five minutes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">user average-5</a> <i>number</i>
<b>Tree</b>	<a href="#">average-5</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant** *number*

<b>Description</b>	The instantaneous percentage value
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">cpu index</a> ( <i>keyword</i>   <i>number</i> ) <a href="#">user instant</a> <i>number</i>
<b>Tree</b>	<a href="#">instant</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**disk name** *string*

<b>Description</b>	List of disks present in the system
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i>
<b>Tree</b>	<a href="#">disk</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the disk, as defined by its physical location in the system
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**model-number** *string*

<b>Description</b>	Model name of the disk
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">model-number</a> <i>string</i>
<b>Tree</b>	<a href="#">model-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**partition name** *string*

<b>Description</b>	List of partitions available on this disk
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i>
<b>Tree</b>	<a href="#">partition</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the partition
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**free** *number*

<b>Description</b>	Space free on the partition
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i> <a href="#">free</a> <i>number</i>
<b>Tree</b>	<a href="#">free</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mount-point** *string*

<b>Description</b>	Path to where this partition is mounted
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<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i> <a href="#">mount-point</a> <i>string</i>
<b>Tree</b>	<a href="#">mount-point</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mount-status** *keyword*

<b>Description</b>	Current mount status of this partition
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i> <a href="#">mount-status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mount-status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ro Partition is currently mounted read-only</li> <li>• rw Partition is currently mounted read-write</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**percent-used** *number*

<b>Description</b>	Percentage of the partition in use
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i> <a href="#">percent-used</a> <i>number</i>
<b>Tree</b>	<a href="#">percent-used</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**size** *number*

<b>Description</b>	Size of the partition
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">partition name</a> <i>string</i> <a href="#">size</a> <i>number</i>
<b>Tree</b>	<a href="#">size</a>
<b>Units</b>	bytes
<b>Configurable</b>	False



**Platforms** Supported on all platforms

### **used** *number*

**Description** Space used on the partition

**Context** [platform control slot](#) *string* [disk name](#) *string* [partition name](#) *string* [used number](#)

**Tree** [used](#)

**Units** bytes

**Configurable** False

**Platforms** Supported on all platforms

### **uuid** *string*

**Description** UUID of the partition

**Context** [platform control slot](#) *string* [disk name](#) *string* [partition name](#) *string* [uuid](#) *string*

**Tree** [uuid](#)

**Configurable** False

**Platforms** Supported on all platforms

### **serial-number** *string*

**Description** Serial number of the disk

**Context** [platform control slot](#) *string* [disk name](#) *string* [serial-number](#) *string*

**Tree** [serial-number](#)

**Configurable** False

**Platforms** Supported on all platforms

### **size** *number*

**Description** Total size of the disk

**Context** [platform control slot](#) *string* [disk name](#) *string* [size](#) *number*

**Tree** [size](#)

**Configurable** False

**Platforms** Supported on all platforms

**statistics**

<b>Description</b>	Top-level container for disk statistics
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**read-per-second** *decimal-number*

<b>Description</b>	Indicates the amount of data read from the device per second
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">statistics read-per-second</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">read-per-second</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**transfers-per-second** *decimal-number*

<b>Description</b>	Indicates the number of transfers per second that were issued to the device. A transfer is an I/O request to the device. Multiple logical requests can be combined into a single I/O request to the device. A transfer is of indeterminate size.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">statistics transfers-per-second</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">transfers-per-second</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**utilization** *number*

<b>Description</b>	The current tps utilization of the disk, expressed as a percentage
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">statistics utilization</a> <i>number</i>
<b>Tree</b>	<a href="#">utilization</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**written-per-second** *decimal-number*

<b>Description</b>	Indicates the amount of data written to the device per second
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">statistics</a> <a href="#">written-per-second</a> <i>decimal-number</i>
<b>Tree</b>	<a href="#">written-per-second</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	Type of disk
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">disk name</a> <i>string</i> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• compactflash</li> <li>• ssd</li> <li>• hdd</li> <li>• usb</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-reason** *string*

<b>Description</b>	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">failure-reason</a> <i>string</i>
<b>Tree</b>	<a href="#">failure-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-booted** *string*

<b>Description</b>	The date and time this component last booted For components that do not boot, this is the time the component was last discovered by the active control module
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<b>Context</b>	<a href="#">platform control slot string last-booted string</a>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-change** *string*

<b>Description</b>	The date and time this component last changed state
<b>Context</b>	<a href="#">platform control slot string last-change string</a>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **locator-state** *keyword*

<b>Description</b>	Details if the locator LED is active on this component
<b>Context</b>	<a href="#">platform control slot string locator-state keyword</a>
<b>Tree</b>	<a href="#">locator-state</a>
<b>Default</b>	inactive
<b>Options</b>	<ul style="list-style-type: none"> <li>• active Locator LED is currently active</li> <li>• inactive Locator LED is currently inactive</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **manufactured-date** *string*

<b>Description</b>	The date this component was manufactured
<b>Context</b>	<a href="#">platform control slot string manufactured-date string</a>
<b>Tree</b>	<a href="#">manufactured-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## memory

<b>Description</b>	Top-level container for system memory state
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">memory</a>
<b>Tree</b>	<a href="#">memory</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## free number

<b>Description</b>	Memory available for system use
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">memory</a> <a href="#">free number</a>
<b>Tree</b>	<a href="#">free</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## physical number

<b>Description</b>	Total physical memory available on this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">memory</a> <a href="#">physical number</a>
<b>Tree</b>	<a href="#">physical</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## reserved number

<b>Description</b>	Memory reserved for system use
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">memory</a> <a href="#">reserved number</a>
<b>Tree</b>	<a href="#">reserved</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**utilization number**

<b>Description</b>	Total memory utilized
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">memory utilization number</a>
<b>Tree</b>	<a href="#">utilization</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-state keyword**

<b>Description</b>	The operational state of this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot</li> </ul>

Component or process is currently warm rebooting

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **part-number** *string*

<b>Description</b>	Part number for this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">part-number</a> <i>string</i>
<b>Tree</b>	<a href="#">part-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **power**

<b>Description</b>	State related to power consumption and allocation for this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">power</a>
<b>Tree</b>	<a href="#">power</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **required** *number*

<b>Description</b>	The power budget required to enable this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">power required</a> <i>number</i>
<b>Tree</b>	<a href="#">required</a>
<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	The power in use by this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">power used</a> <i>number</i>
<b>Tree</b>	<a href="#">used</a>
<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**process pid number**

<b>Description</b>	List of system processes
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i>
<b>Tree</b>	<a href="#">process</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pid number**

<b>Description</b>	The process ID
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**args string**

<b>Description</b>	Current process command line arguments Arguments with a parameter (e.g., --option 10 or -option=10) should be represented as a single element of the list with the argument name and parameter together. Flag arguments, i.e., those without a parameter should also be in their own list element.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i> <a href="#">args</a> <i>string</i>
<b>Tree</b>	<a href="#">args</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**cpu-utilization** *number*

<b>Description</b>	The percentage of CPU that is being used by the process
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i> <a href="#">cpu-utilization</a> <i>number</i>
<b>Tree</b>	<a href="#">cpu-utilization</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**memory-usage** *number*

<b>Description</b>	Bytes allocated and in use by the process
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i> <a href="#">memory-usage</a> <i>number</i>
<b>Tree</b>	<a href="#">memory-usage</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**memory-utilization** *number*

<b>Description</b>	The percentage of RAM that is being used by the process
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i> <a href="#">memory-utilization</a> <i>number</i>
<b>Tree</b>	<a href="#">memory-utilization</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	The process name
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i> <a href="#">name</a> <i>string</i>
<b>Tree</b>	<a href="#">name</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**start-time** *string*

<b>Description</b>	The time at which this process started
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">process pid</a> <i>number</i> <a href="#">start-time</a> <i>string</i>
<b>Tree</b>	<a href="#">start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**rebooting-at** *string*

<b>Description</b>	Indicates the date and time this component will reboot If empty, no delayed reboots are queued for this component. A non empty value implies that a delayed reboot operation has been triggered for this component, which can be aborted using 'tools platform <component> reboot cancel'.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">rebooting-at</a> <i>string</i>
<b>Tree</b>	<a href="#">rebooting-at</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**removable** *boolean*

<b>Description</b>	Details if this component can be removed from the system
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">removable</a> <i>boolean</i>
<b>Tree</b>	<a href="#">removable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**role** *keyword*

<b>Description</b>	Control module role, detailing active or standby state This field is not present on systems without removable control modules.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">role</a> <i>keyword</i>
<b>Tree</b>	<a href="#">role</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>active</li> </ul>

	<ul style="list-style-type: none"> <li>standby</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **serial-number** *string*

<b>Description</b>	The serial number for this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">serial-number</a> <i>string</i>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **software-version** *string*

<b>Description</b>	Image version version running on this component  This version is the squashfs version, and may not represent the current per-application versions if versions have been modified after the system has been installed.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">software-version</a> <i>string</i>
<b>Tree</b>	<a href="#">software-version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **temperature**

<b>Description</b>	State related to temperature for this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">temperature</a>
<b>Tree</b>	<a href="#">temperature</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **alarm-status** *boolean*

<b>Description</b>	Indicates if a temperature sensor of this component is currently in an alarm state
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An alarm state is triggered if the margin field is  $\leq 2$  degrees, indicating that a thermal protection shut down is imminent unless adequate system cooling is provided to bring the temperature sensor back into safe operating ranges.

<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">temperature alarm-status</a> <i>boolean</i>
<b>Tree</b>	<a href="#">alarm-status</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **instant** *number*

<b>Description</b>	Represents the highest temperature of any sensor on this component Note that as multiple sensors may feed in, that this field and the margin field may be referencing different sensors.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">temperature instant</a> <i>number</i>
<b>Tree</b>	<a href="#">instant</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **margin** *number*

<b>Description</b>	Indicates the lowest alarm margin of any sensor on this component The margin is the delta between the current sensor temperature and the thermal protection threshold for that sensor. Note that as multiple sensors may feed in, that this field and the instant field may be referencing different sensors.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">temperature margin</a> <i>number</i>
<b>Tree</b>	<a href="#">margin</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **type** *string*

<b>Description</b>	Control module type, as translated from the components EEPROM
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">type</a> <i>string</i>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fabric slot number**

<b>Description</b>	Top-level container for fabric configuration and state
<b>Context</b>	<a href="#">platform fabric slot number</a>
<b>Tree</b>	<a href="#">fabric</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**slot number**

<b>Description</b>	Numeric identifier for the fabric module
<b>Context</b>	<a href="#">platform fabric slot number</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**admin-state keyword**

<b>Description</b>	The administrative state of this component
<b>Context</b>	<a href="#">platform fabric slot number admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**clei-code string**

<b>Description</b>	The Common Language Identification Code for this component
<b>Context</b>	<a href="#">platform fabric slot number clei-code string</a>
<b>Tree</b>	<a href="#">clei-code</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**failure-reason** *string*

<b>Description</b>	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
<b>Context</b>	<a href="#">platform fabric slot number failure-reason string</a>
<b>Tree</b>	<a href="#">failure-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**last-booted** *string*

<b>Description</b>	The date and time this component last booted For components that do not boot, this is the time the component was last discovered by the active control module
<b>Context</b>	<a href="#">platform fabric slot number last-booted string</a>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**last-change** *string*

<b>Description</b>	The date and time this component last changed state
<b>Context</b>	<a href="#">platform fabric slot number last-change string</a>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**locator-state** *keyword*

<b>Description</b>	Details if the locator LED is active on this component
<b>Context</b>	<a href="#">platform fabric slot number locator-state keyword</a>
<b>Tree</b>	<a href="#">locator-state</a>
<b>Default</b>	inactive
<b>Options</b>	<ul style="list-style-type: none"> <li>active</li> </ul>

- Locator LED is currently active
- inactive
- Locator LED is currently inactive

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **manufactured-date** *string*

<b>Description</b>	The date this component was manufactured
<b>Context</b>	<a href="#">platform</a> <a href="#">fabric slot</a> <a href="#">number</a> <a href="#">manufactured-date</a> <i>string</i>
<b>Tree</b>	<a href="#">manufactured-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **oper-state** *keyword*

<b>Description</b>	The operational state of this component
<b>Context</b>	<a href="#">platform</a> <a href="#">fabric slot</a> <a href="#">number</a> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading</li> </ul>

- Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**part-number string****Description**

Part number for this component

**Context**[platform fabric slot number part-number string](#)**Tree**[part-number](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**power****Description**

State related to power consumption and allocation for this component

**Context**[platform fabric slot number power](#)**Tree**[power](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**required number****Description**

The power budget required to enable this component



<b>Context</b>	<a href="#">platform fabric slot number power required number</a>
<b>Tree</b>	<a href="#">required</a>
<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	The power in use by this component
<b>Context</b>	<a href="#">platform fabric slot number power used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**rebooting-at string**

<b>Description</b>	Indicates the date and time this component will reboot. If empty, no delayed reboots are queued for this component. A non empty value implies that a delayed reboot operation has been triggered for this component, which can be aborted using 'tools platform <component> reboot cancel'.
<b>Context</b>	<a href="#">platform fabric slot number rebooting-at string</a>
<b>Tree</b>	<a href="#">rebooting-at</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**removable boolean**

<b>Description</b>	Details if this component can be removed from the system
<b>Context</b>	<a href="#">platform fabric slot number removable boolean</a>
<b>Tree</b>	<a href="#">removable</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**serial-number** *string*

<b>Description</b>	The serial number for this component
<b>Context</b>	<a href="#">platform fabric slot number serial-number string</a>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**temperature**

<b>Description</b>	State related to temperature for this component
<b>Context</b>	<a href="#">platform fabric slot number temperature</a>
<b>Tree</b>	<a href="#">temperature</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**alarm-status** *boolean*

<b>Description</b>	Indicates if a temperature sensor of this component is currently in an alarm state  An alarm state is triggered if the margin field is $\leq 2$ degrees, indicating that a thermal protection shut down is imminent unless adequate system cooling is provided to bring the temperature sensor back into safe operating ranges.
<b>Context</b>	<a href="#">platform fabric slot number temperature alarm-status boolean</a>
<b>Tree</b>	<a href="#">alarm-status</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**instant** *number*

<b>Description</b>	Represents the highest temperature of any sensor on this component  Note that as multiple sensors may feed in, that this field and the margin field may be referencing different sensors.
<b>Context</b>	<a href="#">platform fabric slot number temperature instant number</a>
<b>Tree</b>	<a href="#">instant</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**margin number**

<b>Description</b>	Indicates the lowest alarm margin of any sensor on this component  The margin is the delta between the current sensor temperature and the thermal protection threshold for that sensor. Note that as multiple sensors may feed in, that this field and the instant field may be referencing different sensors.
<b>Context</b>	<a href="#">platform fabric slot number temperature margin number</a>
<b>Tree</b>	<a href="#">margin</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**type string**

<b>Description</b>	Fabric module type, as translated from the components EEPROM
<b>Context</b>	<a href="#">platform fabric slot number type string</a>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fan-tray id number**

<b>Description</b>	Top-level container for fan module configuration and state
<b>Context</b>	<a href="#">platform fan-tray id number</a>
<b>Tree</b>	<a href="#">fan-tray</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id number**

<b>Description</b>	Numeric identifier for the fan tray
<b>Context</b>	<a href="#">platform fan-tray id number</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**clei-code** *string*

<b>Description</b>	The Common Language Identification Code for this component
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">clei-code</a> <i>string</i>
<b>Tree</b>	<a href="#">clei-code</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-reason** *string*

<b>Description</b>	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">failure-reason</a> <i>string</i>
<b>Tree</b>	<a href="#">failure-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-booted** *string*

<b>Description</b>	The date and time this component last booted For components that do not boot, this is the time the component was last discovered by the active control module
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">last-booted</a> <i>string</i>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-change** *string*

<b>Description</b>	The date and time this component last changed state
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">last-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**locator-state** *keyword*

<b>Description</b>	Details if the locator LED is active on this component
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">locator-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">locator-state</a>
<b>Default</b>	inactive
<b>Options</b>	<ul style="list-style-type: none"> <li>• active Locator LED is currently active</li> <li>• inactive Locator LED is currently inactive</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**manufactured-date** *string*

<b>Description</b>	The date this component was manufactured
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">manufactured-date</a> <i>string</i>
<b>Tree</b>	<a href="#">manufactured-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-reason** *keyword*

<b>Description</b>	Indicates the reason for the current state of this fan tray
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">oper-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fault Hardware fault detected</li> <li>• eeprom-invalid EEPROM of this fan tray is either invalid or corrupt</li> <li>• airflow-mismatch The detected airflow of this fan tray does not match the system-calculated airflow direction The logic for determining the system-calculated direction is: - Majority wins between present fan trays - In the case where there are equal F2B</li> </ul>

or B2F fan-trays, PSUs are used as a tie break (PSUs only are counted in the event a tie breaker is needed) - F2B wins if no tie break can be used

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of this component
<b>Context</b>	<a href="#">platform fan-tray id</a> <i>number</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting  This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> </ul>

- **waiting**  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable** False  
**Platforms** Supported on all platforms

### **part-number** *string*

**Description** Part number for this component  
**Context** [platform fan-tray id number part-number string](#)  
**Tree** [part-number](#)  
**Configurable** False  
**Platforms** Supported on all platforms

### **power**

**Description** State related to power consumption and allocation for this component  
**Context** [platform fan-tray id number power](#)  
**Tree** [power](#)  
**Configurable** False  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **required** *number*

**Description** The power budget required to enable this component  
**Context** [platform fan-tray id number power required number](#)  
**Tree** [required](#)  
**Units** watts  
**Configurable** False  
**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **used** *number*

**Description** The power in use by this component

<b>Context</b>	<a href="#">platform fan-tray id number power used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**removable** *boolean*

<b>Description</b>	Details if this component can be removed from the system
<b>Context</b>	<a href="#">platform fan-tray id number removable boolean</a>
<b>Tree</b>	<a href="#">removable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**serial-number** *string*

<b>Description</b>	The serial number for this component
<b>Context</b>	<a href="#">platform fan-tray id number serial-number string</a>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**speed** *number*

<b>Description</b>	The current speed of the fan tray
<b>Context</b>	<a href="#">platform fan-tray id number speed number</a>
<b>Tree</b>	<a href="#">speed</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *string*

<b>Description</b>	Fan tray type, as translated from the components EEPROM
<b>Context</b>	<a href="#">platform fan-tray id number type string</a>
<b>Tree</b>	<a href="#">type</a>



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<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**linecard** *slot number*

<b>Description</b>	Top-level container for linecard configuration and state
<b>Context</b>	<a href="#">platform linecard slot number</a>
<b>Tree</b>	<a href="#">linecard</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**slot** *number*

<b>Description</b>	Numeric identifier for the linecard
<b>Context</b>	<a href="#">platform linecard slot number</a>
<b>Range</b>	1 to 8
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	The administrative state of this component
<b>Context</b>	<a href="#">platform linecard slot number admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**clei-code** *string*

<b>Description</b>	The Common Language Identification Code for this component
<b>Context</b>	<a href="#">platform linecard slot number clei-code string</a>
<b>Tree</b>	<a href="#">clei-code</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-reason** *string*

<b>Description</b>	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
<b>Context</b>	<a href="#">platform linecard slot number failure-reason string</a>
<b>Tree</b>	<a href="#">failure-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**forwarding-complex** *name keyword*

<b>Description</b>	List of forwarding complexes on the linecard
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword</a>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *keyword*

<b>Description</b>	The identifier of the forwarding complex
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• 0</li> <li>• 1</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**acl**

<b>Description</b>	Enter the acl context
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### resource *name identityref*

**Description** Enter the resource list instance

**Context** [platform linecard slot number forwarding-complex name keyword acl resource name identityref](#)

**Tree** [resource](#)

**Configurable** False

**Platforms** Supported on all platforms

### name *identityref*

**Description** The name of the ACL resource

**Context** [platform linecard slot number forwarding-complex name keyword acl resource name identityref](#)

**Options**

- **input-ipv4-filter-instances**  
This resource is used every time an IPv4 filter instance is created and applied to ingress traffic on the forwarding complex. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every subinterface using the IPv4 filter.
- **input-ipv4-qos-multifield-instances**  
This resource is used every time an IPv4 multifield classifier policy is applied to ingress traffic on a subinterface.
- **input-ipv4-filter-instances-routed**  
This resource is used every time an IPv4 filter instance is created and applied to ingress traffic on routed subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every routed subinterface using the IPv4 filter.
- **input-ipv4-filter-instances-bridged**  
This resource is used every time an IPv4 filter instance is created and applied to ingress traffic on bridged subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every bridged subinterface using the IPv4 filter.
- **input-ipv6-filter-instances**  
This resource is used every time an IPv6 filter instance is created and applied to ingress traffic on the forwarding complex. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every subinterface using the IPv6 filter.

- **input-ipv6-qos-multifield-instances**  
This resource is used every time an IPv6 multifield classifier policy is applied to ingress traffic on a subinterface.
- **input-ipv6-filter-instances-routed**  
This resource is used every time an IPv6 filter instance is created and applied to ingress traffic on routed subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every routed subinterface using the IPv6 filter.
- **input-ipv6-filter-instances-bridged**  
This resource is used every time an IPv6 filter instance is created and applied to ingress traffic on bridged subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every bridged subinterface using the IPv6 filter.
- **if-input-ipv4-stats**  
Resource pool of stats entries available for ingress IPv4 ACLs
- **if-input-ipv6-stats**  
Resource pool of stats entries available for ingress IPv6 ACLs
- **if-output-ipv4-stats**  
Resource pool of stats entries available for egress IPv4 ACLs
- **if-output-ipv6-stats**  
Resource pool of stats entries available for egress IPv6 ACLs
- **if-output-cpm-stats**  
Resource pool of stats entries shared by egress IPv4/IPv6/MAC TCAM entries, and CPM-filter IPv4/IPv6/MAC TCAM entries  
Egress Ipv4 -> uses single stat counter Egress Ipv6 -> uses single stat counter Egress MAC -> uses single stat counter Cpm Ipv4 -> uses two stat counters Cpm Ipv6 -> uses two stat counters Cpm MAC -> uses two stat counters

**Configurable**

False

**Platforms**

Supported on all platforms

**free number****Description**

The number of resources that are unused and available

**Context**[platform](#) [linecard slot number](#) [forwarding-complex name](#) [keyword](#) [acl resource name](#) [identityref](#) [free number](#)**Tree**[free](#)**Configurable**

False

**Platforms** Supported on all platforms

### **used number**

**Description** The number of resources that are in use

**Context** [platform linecard slot number forwarding-complex name keyword acl resource name identityref used number](#)

**Tree** [used](#)

**Configurable** False

**Platforms** Supported on all platforms

### **buffer-memory**

**Description** Container for utilization statistics of the packet buffer memory

**Context** [platform linecard slot number forwarding-complex name keyword buffer-memory](#)

**Tree** [buffer-memory](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3L, 7250 IXR-10, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **dram**

**Description** Container for utilization statistics of the DRAM memory.

**Context** [platform linecard slot number forwarding-complex name keyword buffer-memory dram](#)

**Tree** [dram](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **used number**

**Description** Used DRAM memory

**Context** [platform linecard slot number forwarding-complex name keyword buffer-memory dram used number](#)

**Tree** [used](#)

**Range** 0 to 100

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**free number**

<b>Description</b>	Available buffer memory, which equals the total memory less the used memory and the reserved memory.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword buffer-memory free number</a>
<b>Tree</b>	<a href="#">free</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**reserved number**

<b>Description</b>	Buffer memory reserved for proper system operation and by the user (due to assignment of non-zero CBS for certain queues, on platforms that support CBS).
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword buffer-memory reserved number</a>
<b>Tree</b>	<a href="#">reserved</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**sram**

<b>Description</b>	Container for utilization statistics of the on-chip SRAM memory.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword buffer-memory sram</a>
<b>Tree</b>	<a href="#">sram</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**free number**

<b>Description</b>	Available SRAM memory
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword buffer-memory sram free number</a>
<b>Tree</b>	<a href="#">free</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	Used SRAM memory
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword buffer-memory sram used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**used number**

<b>Description</b>	Used buffer memory, excluding reserved memory.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword buffer-memory used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**datapath**

<b>Description</b>	Container for monitoring datapath resources of a particular forwarding complex
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword datapath</a>
<b>Tree</b>	<a href="#">datapath</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

## asic

**Description** Container for monitoring ASIC-specific datapath resources

**Context** [platform linecard slot number forwarding-complex name keyword datapath asic](#)

**Tree** [asic](#)

**Configurable** False

**Platforms** Supported on all platforms

## resource name *identityref*

**Description** List of ASIC-specific datapath resources.

**Context** [platform linecard slot number forwarding-complex name keyword datapath asic resource name identityref](#)

**Tree** [resource](#)

**Configurable** False

**Platforms** Supported on all platforms

## name *identityref*

**Description** The name of the ASIC-specific datapath resource

**Context** [platform linecard slot number forwarding-complex name keyword datapath asic resource name identityref](#)

**Options**

- ip-lpm-ipv4-routes
 

Trident3: Reports the number of IPv4 entries in the hardware LPM table. In non-ALPM mode, free entries is the remaining number of half-wide entries in all partitions (i.e. it assumes no IPv6 routes consume those entries). In ALPM mode, free entries is the Minimum Guaranteed Capacity returned by the BCM SDK.

Trident4 and Tomahawk3: Reports the number of IPv4 routes installed in the FIB. Free entries is the Minimum Guaranteed Capacity returned by the BCM SDK.
- ip-lpm-ipv6-routes
 

Reports the number of IPv6 routes installed in the FIB. Free entries is the Minimum Guaranteed Capacity returned by the BCM SDK.
- ip-lpm-ipv6-shorter-routes



Trident3: Reports the number of IPv6 entries with prefix length less than 65 bits in the hardware LPM table. In non-ALPM mode, free entries is the remaining number of single-wide + double-wide entries (i.e. it assumes no other types of routes consume those entries). In ALPM mode, free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

Tomahawk3: Reports the number of IPv6 entries with prefix length less than 65 bits installed in the FIB. Free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

- ip-lpm-ipv6-longer-routes

Trident3: Reports the number of IPv6 entries with prefix length greater than 64 bits in the hardware LPM table. In non-ALPM mode, free entries is the remaining number of double-wide entries (i.e. it assumes no other types of routes consume those entries). In ALPM mode, free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

Tomahawk3: Reports the number of IPv6 entries with prefix length greater than 64 bits installed in the FIB. Free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

- exact-match-entries

Reports the number of half-wide entries used in the LEM table. Each MPLS ILM record uses one half-wide entry. Each IPv4 address used as a host route, ARP entry or subnet broadcast address requires a half-wide entry. An IPv6 address used as a host route, or ND entry requires a single-wide entry (2 half-wide entries). Free entries is the remaining number of half-wide entries.

- underlay-ecmp-groups

Underlay ECMP group resources.

ECMP groups are partitioned into overlay and underlay groups. The underlay partition is further subdivided into groups used for underlay ECMP and groups used for VP LAGs (EVPN M-H). This counts the utilization of the sub-resource used for ECMP.

- vp-lag-groups

VP LAG group resources.

ECMP groups are partitioned into overlay and underlay groups. The underlay partition is further subdivided into groups used for underlay ECMP and groups used for VP LAGs (EVPN M-H). This counts the utilization of the sub-resource used for VP LAGs.

- overlay-ecmp-groups

Overlay ECMP group resources.

ECMP groups are partitioned into overlay and underlay groups. This counts the utilization of the overlay ECMP partition.

- underlay-ecmp-members

Underlay ECMP member resources.

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ECMP members are partitioned into overlay and underlay. This counts the utilization of the partition used for underlay.

- overlay-ecmp-members

Overlay ECMP member resources.

ECMP members are partitioned into overlay and underlay. This counts the utilization of the partition used for overlay.

- underlay-egress-next-hops

Underlay egress next-hop resources.

Egress next-hops are partitioned into overlay and underlay. This counts the utilization of the partition used for underlay.

- overlay-egress-next-hops

Overlay egress next-hop resources.

Egress next-hops are partitioned into overlay and underlay. This counts the utilization of the partition used for overlay.

- dgpp-module-ids

DGPP module ID resources.

DGPPs are an aggregate id consisting of a module\_id and a port\_id. There are 64 modules and 120 ports per module. Each 'network' ARP entry (IP next-hop) needs a DGPP - the module\_id is allocated against the network interface (port) and a port\_id is allocated from within the module. A module\_id will only be allocated when the first ArpEntry is added (freed when last is removed) but is owned exclusively by that network interface. A network interface may require more than one module\_id - i.e. if there are 245 ArpEntries on ethernet-1/1 (possibly spread across multiple network-instance interfaces) then 3 module\_ids are required.

- egress-vlan-translate-egress-vnis

EGR\_VLAN\_XLATE\_1 resources.

Corresponds to the 'EGR\_VLAN\_XLATE\_1' HW table (8K entries).

These entries are used for finding the egress VNI to be used for VXLAN packets.

- egress-vlan-translate-local-bias-pairs

EGR\_VLAN\_XLATE\_2 resources.

Corresponds to the 'EGR\_VLAN\_XLATE\_2' HW table (24K entries).

These entries are used for local bias (ES pruning).

- level-1-ecmp-groups

L1 ECMP group resources.

ECMP FEC resources are divided into L1 ECMP FEC resources and L2 ECMP FEC resources. This counts the number of entries used in the L1 partition.

- level-2-ecmp-groups

L2 ECMP group resources.

ECMP FEC resources are divided into L1 ECMP FEC resources and L2 ECMP FEC resources. This counts the number of entries used in the L2 partition.

- level-1-ecmp-members

L1 ECMP member resources.

ECMP FEC member resources are divided into L1 and L2 resources. This counts the number of entries used in the L1 partition.

- level-2-ecmp-members

L2 ECMP member resources.

ECMP FEC member resources are divided into L1 and L2 resources. This counts the number of entries used in the L2 partition.

- level-1-non-ecmp-fecs

L1 non-ECMP FEC resources.

Non-ECMP FEC resources are divided into L1 and L2 resources. This counts the number of entries used in the L1 partition.

- level-2-non-ecmp-fecs

L2 non-ECMP FEC resources.

Non-ECMP FEC resources are divided into L1 and L2 resources. This counts the number of entries used in the L2 partition.

**Configurable**

False

**Platforms**

Supported on all platforms

### **free-entries** *number*

**Description**

The number of entries that are currently free

**Context**

[platform](#) [linecard slot](#) [number](#) [forwarding-complex name](#) [keyword](#) [datapath](#) [asic resource name](#) [identityref](#) [free-entries](#) [number](#)

**Tree**

[free-entries](#)

**Configurable**

False

**Platforms**

Supported on all platforms

### **used-entries** *number*

**Description**

The number of entries that are currently used

**Context**

[platform](#) [linecard slot](#) [number](#) [forwarding-complex name](#) [keyword](#) [datapath](#) [asic resource name](#) [identityref](#) [used-entries](#) [number](#)

**Tree**

[used-entries](#)

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **used-percent** *number*

<b>Description</b>	The percentage of the resource that is currently used
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <i>number</i> <a href="#">forwarding-complex name</a> <i>keyword</i> <a href="#">datapath</a> <a href="#">asic resource name</a> <i>identityref</i> <a href="#">used-percent</a> <i>number</i>
<b>Tree</b>	<a href="#">used-percent</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **xdp**

<b>Description</b>	Container for monitoring datapath resources that are generic in concept.
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <i>number</i> <a href="#">forwarding-complex name</a> <i>keyword</i> <a href="#">datapath</a> <a href="#">xdp</a>
<b>Tree</b>	<a href="#">xdp</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **resource** [name](#) *identityref*

<b>Description</b>	List of generic datapath resources.
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <i>number</i> <a href="#">forwarding-complex name</a> <i>keyword</i> <a href="#">datapath</a> <a href="#">xdp resource name</a> <i>identityref</i>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **name** *identityref*

<b>Description</b>	The name of the XDP datapath resource
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <i>number</i> <a href="#">forwarding-complex name</a> <i>keyword</i> <a href="#">datapath</a> <a href="#">xdp resource name</a> <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">arp-nd-entries</a></li> </ul>

IPv4 ARP and IPv6 neighbor discovery resources.

Each IPv4 ARP and each IPv6 neighbor entry counts as 1 used resource against a total that is platform dependent. This does not consider underlying ASIC resources.

- ip-hosts

IP host route resources.

Trident3: Reports the number of entries used in the IP host table. Every local host /32 route, ARP entry and IPv4 subnet broadcast address requires 1 entry. In non-ALPM operation every remote /32 route also requires 1 entry. Every local host /128 route, and ND entry requires 2 entries. In non-ALPM operation every remote /128 route also requires 2 entries. Free entries reflects the total number of entries remaining in shared + dedicated UFT banks

Trident4 and Tomahawk3: Reports the number of entries used in the IP host table. Every local host /32 route, ARP entry and IPv4 subnet broadcast address requires 1 entry. Every local host /128 route, and ND entry requires 2 entries.

- ip-lpm-routes

IP longest prefix match route resources.

Jericho2: Every installed IPv4 and IPv6 route counts as one used route.

Trident3 and Tomahawk3: In ALPM-disabled mode: Reports the number of half-wide entries. An IPv4 route requires a half-wide entry. An IPv6 route that is /64 or less requires a single-wide entry (2 half-wide entries). An IPv6 route that is more than /64 requires a double-wide entry (4 half-wide entries). In ALPM mode: Every IPv4 route counts as 1 used route and every IPv6 route (regardless of prefix length) counts as 2 used routes.

Trident4: Every IPv4 route counts as 1 used route and every IPv6 route (regardless of prefix length) counts as 4 used routes.

- mac-addresses

MAC address resources.

Reports the number of entries used in the MAC lookup table. On TD3, free entries reflects the total number of entries remaining in shared + dedicated UFT banks

- direct-next-hops

Direct next-hop resources.

Reports the number of entries, where 1 entry is used for every next-hop of an IP or MPLS route that is resolved directly to a local interface. This does not consider underlying ASIC resources.

- indirect-next-hops

Indirect next-hop resources.

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Reports the number of entries, where 1 entry is used for every next-hop of an IP route that is resolved by a non-local route. This does not consider underlying ASIC resources.

- tunnel-next-hops

Tunnel next-hop resources.

Reports the number of tunnel next-hop entries. For EVPN routes resolved by VXLAN, 1 entry is used for every <vni, vtep> pair. When a BGP IP route is resolved by an MPLS tunnel, 1 entry is used for every BGP next-hop of the route. This does not consider underlying ASIC resources.

- ecmp-groups

ECMP group resources.

Jericho2: Reports the used number of ECMP FECs, adding L1 ECMP FECs and L2 ECMP FECs.

Trident3: Reports the used number of ECMP groups, adding overlay and underlay ECMP groups.

Trident4 and Tomahawk3: Reports used number of ECMP groups.

- ecmp-members

ECMP member resources.

Jericho2: Reports the used number of ECMP member FECs, adding L1 ECMP member FECs and L2 ECMP member FECs.

Trident3: Reports the used number of ECMP members, adding overlay and underlay ECMP members.

Trident4 and Tomahawk3: Reports used number of ECMP members.

- egress-next-hops

Egress next-hop resources.

Trident3: Reports the number of entries used in the egress next-hop table, counting entries in the overlay partition and entries in the underlay partition. 1 entry = 1 IPv4 next-hop address or 1 IPv6 next-hop address.

Trident4 and Tomahawk3: Reports the number of entries used in the egress next-hop table. 1 entry = 1 IPv4 next-hop address or 1 IPv6 next-hop address.

- lag-groups

LAG group resources.

Reports the number of LAG resources used, including DGPP LAGs.

- lag-members

LAG member resources.

Reports the number of LAG member resources used, including DGPP LAG members.

- subinterfaces

Subinterface resources.

There are a maximum of 127 subinterfaces per TH3 pipeline (limited by VFP/EFP TCAM resources). This counts the utilization of those resources.

- **mpls-next-hops**

One resource is used for every next-hop that pushes an MPLS label in every next-hop-group that is tied to an ILM entry that performs a 'swap'. One additional resource is used for every next-hop that pushes an MPLS label in every next-hop-group that is tied to an MPLS tunnel.

- **mpls-incoming-labels**

One resource is used for every MPLS ILM entry that performs either a 'swap' or a 'pop' operation.

- **tunnels**

Tunnel resources. One tunnel resource is used per VXLAN or MPLS tunnel endpoint.

On TD3 and TD4 systems this equates to a DVP resource.

**Configurable**

False

**Platforms**

Supported on all platforms

### **free-entries** *number*

**Description**

The number of entries that are currently free

**Context**

[platform](#) [linecard slot](#) [number](#) [forwarding-complex name](#) [keyword](#) [datapath](#) [xdp resource name](#) [identityref](#) [free-entries](#) [number](#)

**Tree**

[free-entries](#)

**Configurable**

False

**Platforms**

Supported on all platforms

### **used-entries** *number*

**Description**

The number of entries that are currently used

**Context**

[platform](#) [linecard slot](#) [number](#) [forwarding-complex name](#) [keyword](#) [datapath](#) [xdp resource name](#) [identityref](#) [used-entries](#) [number](#)

**Tree**

[used-entries](#)

**Configurable**

False

**Platforms**

Supported on all platforms

**used-percent** *number*

<b>Description</b>	The percentage of the resource that is currently used
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword datapath xdp resource name identityref used-percent number</a>
<b>Tree</b>	<a href="#">used-percent</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**fabric**

<b>Description</b>	Top-level container for fabric configuration and state
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fabric</a>
<b>Tree</b>	<a href="#">fabric</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**availability** *number*

<b>Description</b>	Details the percentage bandwidth available to the fabric for the line card
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fabric availability number</a>
<b>Tree</b>	<a href="#">availability</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**utilization-egress** *number*

<b>Description</b>	Provides the linecard bandwidth utilization from the switch fabric
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fabric utilization-egress number</a>
<b>Tree</b>	<a href="#">utilization-egress</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**utilization-ingress** *number*

<b>Description</b>	Provides the linecard bandwidth utilization into the switch fabric
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fabric utilization-ingress number</a>
<b>Tree</b>	<a href="#">utilization-ingress</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fib-table**

<b>Description</b>	Enter the fib-table context
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fib-table</a>
<b>Tree</b>	<a href="#">fib-table</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop-group** [index](#) *number*

<b>Description</b>	List of next hop groups (NHGs) in the FIB table
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fib-table next-hop-group index number</a>
<b>Tree</b>	<a href="#">next-hop-group</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**index** *number*

<b>Description</b>	A system-wide unique identifier of a next-hop-group
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fib-table next-hop-group index number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**backup-active** *boolean*

<b>Description</b>	When true, this NHG is not being used to forward traffic and its backup NHG is being relied upon to provide reachability
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<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword fib-table next-hop-group index <i>number</i> backup-active <i>boolean</i></a>
<b>Tree</b>	<a href="#">backup-active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### backup-next-hop-group *reference*

<b>Description</b>	The backup next-hop-group for the current group. When all entries within the next-hop group become unusable, the backup next-hop group is used if specified.
<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword fib-table next-hop-group index <i>number</i> backup-next-hop-group <i>reference</i></a>
<b>Tree</b>	<a href="#">backup-next-hop-group</a>
<b>Reference</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword fib-table next-hop-group index <i>number</i></a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### next-hop *id number*

<b>Description</b>	Enter the next-hop list instance
<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword fib-table next-hop-group index <i>number</i> next-hop id <i>number</i></a>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### *id number*

<b>Description</b>	Index of the next-hop within the NHG
<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword fib-table next-hop-group index <i>number</i> next-hop id <i>number</i></a>
<b>Range</b>	0 to 1023
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**next-hop** *number*

<b>Description</b>	The system-wide unique identifier of the next-hop object
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fib-table next-hop-group index number next-hop id number next-hop number</a>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	Operational state of the next-hop member
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fib-table next-hop-group index number next-hop id number oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up The NHG or NH is fully resolved and operational</li> <li>• down The NHG or NH is unresolved and not viable for carrying traffic</li> <li>• failed The NHG or NH is not operational because of an underlying hardware resource issue</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	Operational state of the next-hop group
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword fib-table next-hop-group index number oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up The NHG or NH is fully resolved and operational</li> <li>• down The NHG or NH is unresolved and not viable for carrying traffic</li> <li>• failed</li> </ul>

The NHG or NH is not operational because of an underlying hardware resource issue

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## mtu

<b>Description</b>	Enter the mtu context
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword mtu</a>
<b>Tree</b>	<a href="#">mtu</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## resource [name identityref](#)

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword mtu resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## name [identityref](#)

<b>Description</b>	The name of the MTU resource
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword mtu resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-mtu IP MTU resource pool. One resource from this pool is consumed by every different IP MTU value used by the subinterfaces on the linecard forwarding-complex.</li> <li>• port-mtu Port MTU resource pool. One resource from this pool is consumed by every different port MTU value used by a port on the linecard forwarding-complex.</li> <li>• mpls-mtu</li> </ul>

MPLS MTU resource pool. One resource from this pool is consumed by every different MPLS MTU value used by the subinterfaces on the linecard forwarding-complex.

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **free number**

<b>Description</b>	The number of resources that are unused and available
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword mtu resource name identityref free number</a>
<b>Tree</b>	<a href="#">free</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **used number**

<b>Description</b>	The number of resources that are in use
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword mtu resource name identityref used number</a>
<b>Tree</b>	<a href="#">used</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **p4rt**

<b>Description</b>	Top-level container for P4Runtime forwarding complex configuration and state
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword p4rt</a>
<b>Tree</b>	<a href="#">p4rt</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **id number**

<b>Description</b>	The numeric ID used by the controller to address the forwarding complex This ID may be referred to as a 'device', 'node' or 'target' by the P4RT specification.
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Each ASIC is addressed by the client based on this numeric identifier.

<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword p4rt id number</a>
<b>Tree</b>	<a href="#">id</a>
<b>Range</b>	1 to 18446744073709551615
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### pipeline [index](#) (*number* | *keyword*)

<b>Description</b>	List of pipelines that make up one forwarding complex.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword)</a>
<b>Tree</b>	<a href="#">pipeline</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

### index (*number* | *keyword*)

<b>Description</b>	The pipeline number (TH3 systems) or direction (J2 and J2C+ systems).
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword)</a>
<b>Range</b>	0 to 7
<b>Options</b>	<ul style="list-style-type: none"> <li>egress Applicable to J2 and J2C+ systems only</li> <li>ingress Applicable to J2 and J2C+ systems only</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

### datapath

<b>Description</b>	Container for monitoring datapath resources of a particular pipeline
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) datapath</a>

<b>Tree</b>	<a href="#">datapath</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

## xdp

<b>Description</b>	Container for monitoring datapath resources that are generic in concept. At the pipeline level only one XDP resource is currently reported:
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) datapath xdp</a>
<b>Tree</b>	<a href="#">xdp</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

## resource [name identityref](#)

<b>Description</b>	List of generic datapath resources.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) datapath xdp resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

## name [identityref](#)

<b>Description</b>	The name of the XDP datapath resource
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) datapath xdp resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>arp-nd-entries IPv4 ARP and IPv6 neighbor discovery resources. Each IPv4 ARP and each IPv6 neighbor entry counts as 1 used resource against a total that is platform dependent. This does not consider underlying ASIC resources.</li> <li>ip-hosts IP host route resources.</li> </ul>

Trident3: Reports the number of entries used in the IP host table. Every local host /32 route, ARP entry and IPv4 subnet broadcast address requires 1 entry. In non-ALPM operation every remote /32 route also requires 1 entry. Every local host /128 route, and ND entry requires 2 entries. In non-ALPM operation every remote /128 route also requires 2 entries. Free entries reflects the total number of entries remaining in shared + dedicated UFT banks

Trident4 and Tomahawk3: Reports the number of entries used in the IP host table. Every local host /32 route, ARP entry and IPv4 subnet broadcast address requires 1 entry. Every local host /128 route, and ND entry requires 2 entries.

- ip-lpm-routes

IP longest prefix match route resources.

Jericho2: Every installed IPv4 and IPv6 route counts as one used route.

Trident3 and Tomahawk3: In ALPM-disabled mode: Reports the number of half-wide entries. An IPv4 route requires a half-wide entry. An IPv6 route that is /64 or less requires a single-wide entry (2 half-wide entries). An IPv6 route that is more than /64 requires a double-wide entry (4 half-wide entries). In ALPM mode: Every IPv4 route counts as 1 used route and every IPv6 route (regardless of prefix length) counts as 2 used routes.

Trident4: Every IPv4 route counts as 1 used route and every IPv6 route (regardless of prefix length) counts as 4 used routes.

- mac-addresses

MAC address resources.

Reports the number of entries used in the MAC lookup table. On TD3, free entries reflects the total number of entries remaining in shared + dedicated UFT banks

- direct-next-hops

Direct next-hop resources.

Reports the number of entries, where 1 entry is used for every next-hop of an IP or MPLS route that is resolved directly to a local interface. This does not consider underlying ASIC resources.

- indirect-next-hops

Indirect next-hop resources.

Reports the number of entries, where 1 entry is used for every next-hop of an IP route that is resolved by a non-local route. This does not consider underlying ASIC resources.

- tunnel-next-hops

Tunnel next-hop resources.

Reports the number of tunnel next-hop entries. For EVPN routes resolved by VXLAN, 1 entry is used for every <vni, vtep> pair. When a BGP IP



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route is resolved by an MPLS tunnel, 1 entry is used for every BGP next-hop of the route. This does not consider underlying ASIC resources.

- **ecmp-groups**

ECMP group resources.

Jericho2: Reports the used number of ECMP FECs, adding L1 ECMP FECs and L2 ECMP FECs.

Trident3: Reports the used number of ECMP groups, adding overlay and underlay ECMP groups.

Trident4 and Tomahawk3: Reports used number of ECMP groups.

- **ecmp-members**

ECMP member resources.

Jericho2: Reports the used number of ECMP member FECs, adding L1 ECMP member FECs and L2 ECMP member FECs.

Trident3: Reports the used number of ECMP members, adding overlay and underlay ECMP members.

Trident4 and Tomahawk3: Reports used number of ECMP members.

- **egress-next-hops**

Egress next-hop resources.

Trident3: Reports the number of entries used in the egress next-hop table, counting entries in the overlay partition and entries in the underlay partition. 1 entry = 1 IPv4 next-hop address or 1 IPv6 next-hop address.

Trident4 and Tomahawk3: Reports the number of entries used in the egress next-hop table. 1 entry = 1 IPv4 next-hop address or 1 IPv6 next-hop address.

- **lag-groups**

LAG group resources.

Reports the number of LAG resources used, including DGPP LAGs.

- **lag-members**

LAG member resources.

Reports the number of LAG member resources used, including DGPP LAG members.

- **subinterfaces**

Subinterface resources.

There are a maximum of 127 subinterfaces per TH3 pipeline (limited by VFP/EFP TCAM resources). This counts the utilization of those resources.

- **mpls-next-hops**

One resource is used for every next-hop that pushes an MPLS label in every next-hop-group that is tied to an ILM entry that performs a 'swap'. One additional resource is used for every next-hop that pushes an MPLS label in every next-hop-group that is tied to an MPLS tunnel.

- **mpls-incoming-labels**  
One resource is used for every MPLS ILM entry that performs either a 'swap' or a 'pop' operation.
- **tunnels**  
Tunnel resources. One tunnel resource is used per VXLAN or MPLS tunnel endpoint.  
On TD3 and TD4 systems this equates to a DVP resource.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

**free-entries** *number***Description**

The number of entries that are currently free

**Context**[platform](#) [linecard slot number](#) [forwarding-complex name](#) [keyword](#) [pipeline index \(number | keyword\)](#) [datapath xdp resource name](#) [identityref](#) [free-entries number](#)**Tree**[free-entries](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

**used-entries** *number***Description**

The number of entries that are currently used

**Context**[platform](#) [linecard slot number](#) [forwarding-complex name](#) [keyword](#) [pipeline index \(number | keyword\)](#) [datapath xdp resource name](#) [identityref](#) [used-entries number](#)**Tree**[used-entries](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

**used-percent** *number***Description**

The percentage of the resource that is currently used

**Context**[platform](#) [linecard slot number](#) [forwarding-complex name](#) [keyword](#) [pipeline index \(number | keyword\)](#) [datapath xdp resource name](#) [identityref](#) [used-percent number](#)

<b>Tree</b>	<a href="#">used-percent</a>
<b>Range</b>	0 to 100
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-6

## pipeline-counters

<b>Description</b>	Top-level container for the packet counters associated with the different NPU sub-blocks.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) pipeline-counters</a>
<b>Tree</b>	<a href="#">pipeline-counters</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## host-interface-block

<b>Description</b>	The ASIC host interface block subsystem that connects the NPU to the host CPU (on the CPM)
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) pipeline-counters host-interface-block</a>
<b>Tree</b>	<a href="#">host-interface-block</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## packet-extraction

<b>Description</b>	Packet extraction from the NPU towards the CPU
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) pipeline-counters host-interface-block packet-extraction</a>
<b>Tree</b>	<a href="#">packet-extraction</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**extracted-octets** *number*

<b>Description</b>	The number of octets in Ethernet frames extracted towards the CPU from the pipeline; this includes packets that might be dropped (due to congestion or rate limiting) before reaching the final consuming application on the CPM
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) pipeline-counters host-interface-block packet-extraction extracted-octets number</a>
<b>Tree</b>	<a href="#">extracted-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**extracted-packets** *number*

<b>Description</b>	The number of Ethernet frames extracted towards the CPU from the pipeline; this includes packets that might be dropped (due to congestion or rate limiting) before reaching the final consuming application on the CPM
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) pipeline-counters host-interface-block packet-extraction extracted-packets number</a>
<b>Tree</b>	<a href="#">extracted-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**extraction-reason** [reason](#) *identityref*

<b>Description</b>	List of extraction reasons that are possible for the pipeline
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword pipeline index (number   keyword) pipeline-counters host-interface-block packet-extraction extraction-reason reason identityref</a>
<b>Tree</b>	<a href="#">extraction-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**reason** *identityref*

<b>Description</b>	A reason for extracting the packet towards the host CPU
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<b>Context</b>	platform linecard slot <i>number</i> forwarding-complex name <i>keyword</i> pipeline index ( <i>number</i>   <i>keyword</i> ) pipeline-counters host-interface-block packet-extraction extraction-reason reason <i>identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ipv4-header-options IPv4 header options are present in the packet.</li> <li>• ipv6-hop-by-hop-option IPv6 packet with topmost next-header value of zero.</li> <li>• icmp ICMPv4 packets with this router as destination.</li> <li>• icmp6 ICMPv6 packets including neighbor-solicitation and neighbor-advertisement messages.</li> <li>• icmp-redirect Received IPv4 and IPv6 packets that should cause an ICMP redirect to be generated.</li> <li>• bfd BFD and micro-BFD packets with this router as destination.</li> <li>• bgp BGP packets; TCP port 179.</li> <li>• grpc GRPC packets; TCP port 57400</li> <li>• ospf OSPF packets; IP protocol 89</li> <li>• vrrp VRRP packets; IP protocol 112</li> <li>• ldp LDP packets; UDP port 646</li> <li>• dhcp DHCP packets; UDP ports 67,68</li> <li>• ip-other-terminating Any other IP packets that are locally destined</li> <li>• ip-blackhole-icmp Traffic matched a blackhole route with generate-icmp=true</li> <li>• ipv6-multicast IPv6 DA = FF01:0:0:0:0:0:1 or IPv6 DA = FF01:0:0:0:0:0:2</li> <li>• ipv6-link-local IPv6 DA = FE80::/10 address</li> </ul>

- **ipv4-broadcast**  
IPv4 packets were received with a subnet broadcast address or a limited broadcast and not recognized as another type
- **ip-no-route**  
IPv4 and IPv6 packets for which there was no route to the destination
- **ip-header-errors**  
IP version error, IP header checksum error, IP header length error, IP header total length error, IPv6 next-header is null, IPv6 SA is link-local while IPv6 DA is global
- **ip-ttl-expired**  
The IP packet is not destined for this router and it was received with TTL 0 or TTL 1
- **mpls-ttl-expired**  
The MPLS packet was received with MPLS label stack TTL 0 or TTL 1
- **ip-arp-miss**  
The IP DA itself or the next-hop of the route used to forward the packet has no ARP/IPv6 neighbor entry
- **ip-arp**  
The received frame is an ARP packet recognized by ethertype 0x0806
- **lldp**  
The received frame is an LLDP packet recognized by ethertype 0x88cc
- **isis**  
The received frame is an ISIS packet
- **lacp**  
The received frame is an LACP packet
- **google-discovery**  
The received frame is a GDP packet recognized by ethertype 0x6007
- **capture-filter-copy**  
Packets matching a capture-filter copy rule
- **cpm-filter-log**  
Packets matching a CPM-filter rule with log action
- **ingress-acl-log**  
Packets matching an interface IP filter rule with log action
- **egress-acl-log**  
Packet matched an egress ACL rule with log action.
- **ip-mpls-mtu-exceeded**  
The egress subinterface IP MTU or MPLS MTU (as applicable) is less than the size of the IP or MPLS packet that needs to be transmitted.

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### extracted-octets *number*

<b>Description</b>	The number of octets in Ethernet frames extracted towards the CPU from the pipeline; this includes packets that might be dropped (due to congestion or rate limiting) before reaching the final consuming application on the CPM
<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword pipeline index (<i>number</i>   <i>keyword</i>) pipeline-counters host-interface-block packet-extraction extraction-reason reason <i>identityref</i> extracted-octets <i>number</i></a>
<b>Tree</b>	<a href="#">extracted-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### extracted-packets *number*

<b>Description</b>	The number of Ethernet frames extracted towards the CPU from the pipeline; this includes packets that might be dropped (due to congestion or rate limiting) before reaching the final consuming application on the CPM
<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword pipeline index (<i>number</i>   <i>keyword</i>) pipeline-counters host-interface-block packet-extraction extraction-reason reason <i>identityref</i> extracted-packets <i>number</i></a>
<b>Tree</b>	<a href="#">extracted-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### qos

<b>Description</b>	Enter the qos context
<b>Context</b>	<a href="#">platform linecard slot <i>number</i> forwarding-complex name keyword qos</a>
<b>Tree</b>	<a href="#">qos</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**resource** *name identityref*

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword qos resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**name** *identityref*

<b>Description</b>	The name of the QoS resource
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword qos resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• classifier-profiles A classifier-profile resource is used every time a different combination of IPv4 DSCP classifier and IPv6 DSCP classifier is applied to an ingress subinterface of the 7250 IXR IMM. There are 16 of these resources and one is always used by the combination of the default IPv4 DSCP classifier and the default IPv6 DSCP classifier.</li> <li>• rewrite-profiles On the 7250 IXR, a rewrite-profile resource is used every time a different combination of IPv4 DSCP rewrite-rule and IPv6 DSCP rewrite-rule is applied to an egress subinterface of the 7250 IXR IMM. There are 32 of these resources.</li> <li>• rewrite-policies A rewrite-policy resource is used every time a different DSCP or MPLS traffic-class rewrite-rule policy is applied to an egress subinterface of the 7250 IXR IMM. There are 32 of these resources.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**free** *number*

<b>Description</b>	The number of resources that are unused and available
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword qos resource name identityref free number</a>
<b>Tree</b>	<a href="#">free</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



**used** *number*

<b>Description</b>	The number of resources that are in use
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name</a> <i>keyword qos resource name identityref used number</i>
<b>Tree</b>	<a href="#">used</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**tcam**

<b>Description</b>	Enter the tcam context
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name</a> <i>keyword tcam resource name identityref</i>
<b>Tree</b>	<a href="#">tcam</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**resource** [name identityref](#)

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name</a> <i>keyword tcam resource name identityref</i>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *identityref*

<b>Description</b>	The name of the TCAM resource
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name</a> <i>keyword tcam resource name identityref</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>if-input-ipv4 Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-input filers</li> <li>if-output-ipv4 Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-output filers</li> </ul>

- if-input-ipv6  
Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-input filters
- if-output-ipv6  
Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-output filters
- cpm-capture-ipv4  
Resource pool of TCAM entries used by IPv4 cpm-filter ACLs and capture-filter ACLs
- cpm-capture-ipv6  
Resource pool of TCAM entries used by IPv6 cpm-filter ACLs and capture-filter ACLs
- system-capture-ipv4  
Resource pool of TCAM entries used by IPv4 capture-filter ACLs and IPv4 system-filter ACLs
- system-capture-ipv6  
Resource pool of TCAM entries used by IPv6 capture-filter ACLs and IPv6 system-filter ACLs
- system-capture  
Resource pool of TCAM entries used by IPv4 + IPv6 capture-filter ACLs and system-filter ACLs
- capture-ipv4  
Resource pool of TCAM entries used by IPv4 capture-filter ACLs
- capture-ipv6  
Resource pool of TCAM entries used by IPv6 capture-filter ACLs
- if-output-cpm-ipv4  
Resource pool of TCAM entries used by IPv4 egress ACLs and cpm-filter ACLs
- if-output-cpm-ipv6  
Resource pool of TCAM entries used by IPv6 egress ACLs and cpm-filter ACLs
- if-output-cpm  
Resource pool of TCAM entries used by IPv4 + IPv6 egress ACLs and cpm-filter ACLs
- if-input-mac  
Resource pool of TCAM entries used by MAC ACLs applied as subinterface-input filters
- if-output-cpm-mac  
Resource pool of TCAM entries used by MAC egress ACLs and MAC cpm-filter ACLs

- `policy-forwarding-ipv4`  
Resource pool of TCAM entries used by IPv4 policy-forwarding entries
- `if-input-policer`  
Resource pool of TCAM entries used by ingress subinterface policer templates
- `if-input-ipv4-qos`  
Resource pool of TCAM entries associated with IPv4 multi-field QoS classification entries, when applied to subinterface input
- `if-input-ipv6-qos`  
Resource pool of TCAM entries associated with IPv6 multi-field QoS classification entries, when applied to subinterface input

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **free-dynamic** *number*

<b>Description</b>	The number of available and unused TCAM entries for the entry type, assuming that all the remaining unused TCAM slices would be dynamically allocated to this one type of entry (subject to chip level constraints on the placement of double-wide and triple-wide TCAM slice groups).
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword tcam resource name identityref free-dynamic number</a>
<b>Tree</b>	<a href="#">free-dynamic</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **free-static** *number*

<b>Description</b>	The number of available and unused TCAM entries for the entry type, assuming that the number of dynamic TCAM slices that are currently allocated to the entry type remains constant at its current value.
<b>Context</b>	<a href="#">platform linecard slot number forwarding-complex name keyword tcam resource name identityref free-static number</a>
<b>Tree</b>	<a href="#">free-static</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**programmed** *number*

<b>Description</b>	The number of TCAM entries belonging to this resource that are currently programmed into hardware. When the number of programmed entries equals the number of reserved entries HW programming of this resource type has finished.
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot number</a> <a href="#">forwarding-complex name</a> <a href="#">keyword tcam</a> <a href="#">resource name</a> <a href="#">identityref programmed number</a>
<b>Tree</b>	<a href="#">programmed</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**reserved** *number*

<b>Description</b>	The number of TCAM entries that are currently reserved in this resource pool. Reservation happens when a configuration change is committed. Reserved entries may not be programmed yet if the commit has just occurred.
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot number</a> <a href="#">forwarding-complex name</a> <a href="#">keyword tcam</a> <a href="#">resource name</a> <a href="#">identityref reserved number</a>
<b>Tree</b>	<a href="#">reserved</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-booted** *string*

<b>Description</b>	The date and time this component last booted For components that do not boot, this is the time the component was last discovered by the active control module
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot number</a> <a href="#">last-booted string</a>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-change** *string*

<b>Description</b>	The date and time this component last changed state
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot number</a> <a href="#">last-change string</a>

<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **locator-state** *keyword*

<b>Description</b>	Details if the locator LED is active on this component
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <a href="#">number</a> <a href="#">locator-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">locator-state</a>
<b>Default</b>	inactive
<b>Options</b>	<ul style="list-style-type: none"> <li>• active Locator LED is currently active</li> <li>• inactive Locator LED is currently inactive</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **manufactured-date** *string*

<b>Description</b>	The date this component was manufactured
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <a href="#">number</a> <a href="#">manufactured-date</a> <i>string</i>
<b>Tree</b>	<a href="#">manufactured-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of this component
<b>Context</b>	<a href="#">platform</a> <a href="#">linecard slot</a> <a href="#">number</a> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> </ul>

- empty  
Component slot is empty
- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

### **part-number *string***

**Description**

Part number for this component

**Context**

[platform](#) [linecard slot](#) [number](#) [part-number](#) *string*

**Tree**

[part-number](#)

**Configurable**

False

**Platforms** Supported on all platforms

## power

**Description** State related to power consumption and allocation for this component

**Context** [platform linecard slot number power](#)

**Tree** [power](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## required *number*

**Description** The power budget required to enable this component

**Context** [platform linecard slot number power required number](#)

**Tree** [required](#)

**Units** watts

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## used *number*

**Description** The power in use by this component

**Context** [platform linecard slot number power used number](#)

**Tree** [used](#)

**Units** watts

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## rebooting-at *string*

**Description** Indicates the date and time this component will reboot  
If empty, no delayed reboots are queued for this component.  
A non empty value implies that a delayed reboot operation has been triggered for this component, which can be aborted using 'tools platform <component> reboot cancel'.

**Context** [platform linecard slot number rebooting-at string](#)

<b>Tree</b>	<a href="#">rebooting-at</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **removable** *boolean*

<b>Description</b>	Details if this component can be removed from the system
<b>Context</b>	<a href="#">platform linecard slot number removable boolean</a>
<b>Tree</b>	<a href="#">removable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **serial-number** *string*

<b>Description</b>	The serial number for this component
<b>Context</b>	<a href="#">platform linecard slot number serial-number string</a>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **software-version** *string*

<b>Description</b>	Image version version running on this component  This version is the squashfs version, and may not represent the current per-application versions if versions have been modified after the system has been installed.
<b>Context</b>	<a href="#">platform linecard slot number software-version string</a>
<b>Tree</b>	<a href="#">software-version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **temperature**

<b>Description</b>	State related to temperature for this component
<b>Context</b>	<a href="#">platform linecard slot number temperature</a>



<b>Tree</b>	<a href="#">temperature</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **alarm-status** *boolean*

<b>Description</b>	Indicates if a temperature sensor of this component is currently in an alarm state  An alarm state is triggered if the margin field is $\leq 2$ degrees, indicating that a thermal protection shut down is imminent unless adequate system cooling is provided to bring the temperature sensor back into safe operating ranges.
<b>Context</b>	<a href="#">platform linecard slot number temperature alarm-status boolean</a>
<b>Tree</b>	<a href="#">alarm-status</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **instant** *number*

<b>Description</b>	Represents the highest temperature of any sensor on this component  Note that as multiple sensors may feed in, that this field and the margin field may be referencing different sensors.
<b>Context</b>	<a href="#">platform linecard slot number temperature instant number</a>
<b>Tree</b>	<a href="#">instant</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **margin** *number*

<b>Description</b>	Indicates the lowest alarm margin of any sensor on this component  The margin is the delta between the current sensor temperature and the thermal protection threshold for that sensor. Note that as multiple sensors may feed in, that this field and the instant field may be referencing different sensors.
<b>Context</b>	<a href="#">platform linecard slot number temperature margin number</a>
<b>Tree</b>	<a href="#">margin</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**type** *string*

<b>Description</b>	Linecard type, as translated from the components EEPROM
<b>Context</b>	<a href="#">platform linecard slot number type string</a>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**power-supply id** *number*

<b>Description</b>	Top-level container for power supply module configuration and state
<b>Context</b>	<a href="#">platform power-supply id number</a>
<b>Tree</b>	<a href="#">power-supply</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id** *number*

<b>Description</b>	Numeric identifier for the power supply module
<b>Context</b>	<a href="#">platform power-supply id number</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**capacity** *number*

<b>Description</b>	The total capacity the power supply module can provide
<b>Context</b>	<a href="#">platform power-supply id number capacity number</a>
<b>Tree</b>	<a href="#">capacity</a>
<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**clei-code** *string*

<b>Description</b>	The Common Language Identification Code for this component
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<b>Context</b>	<a href="#">platform power-supply id number clei-code string</a>
<b>Tree</b>	<a href="#">clei-code</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **failure-reason** *string*

<b>Description</b>	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
<b>Context</b>	<a href="#">platform power-supply id number failure-reason string</a>
<b>Tree</b>	<a href="#">failure-reason</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **input**

<b>Description</b>	Top-level container for power-supply input state
<b>Context</b>	<a href="#">platform power-supply id number input</a>
<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **current** *decimal-number*

<b>Description</b>	Current input amperage for the power-supply
<b>Context</b>	<a href="#">platform power-supply id number input current decimal-number</a>
<b>Tree</b>	<a href="#">current</a>
<b>Units</b>	amps
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **power** *decimal-number*

<b>Description</b>	Current input power for the power-supply
<b>Context</b>	<a href="#">platform power-supply id number input power decimal-number</a>
<b>Tree</b>	<a href="#">power</a>

<b>Units</b>	watts
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **voltage** *decimal-number*

<b>Description</b>	Current input voltage for the power-supply
<b>Context</b>	<a href="#">platform power-supply id number input voltage decimal-number</a>
<b>Tree</b>	<a href="#">voltage</a>
<b>Units</b>	volts
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-booted** *string*

<b>Description</b>	The date and time this component last booted For components that do not boot, this is the time the component was last discovered by the active control module
<b>Context</b>	<a href="#">platform power-supply id number last-booted string</a>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-change** *string*

<b>Description</b>	The date and time this component last changed state
<b>Context</b>	<a href="#">platform power-supply id number last-change string</a>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **manufactured-date** *string*

<b>Description</b>	The date this component was manufactured
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<b>Context</b>	<a href="#">platform power-supply id number manufactured-date string</a>
<b>Tree</b>	<a href="#">manufactured-date</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-reason** *keyword*

<b>Description</b>	Indicates the reason for the current state of the component
<b>Context</b>	<a href="#">platform power-supply id number oper-reason keyword</a>
<b>Tree</b>	<a href="#">oper-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• no-input/fault No power input, or other hardware fault detected</li> <li>• eeprom-invalid EEPROM of this power supply is either invalid or corrupt</li> <li>• airflow-mismatch The detected airflow of this power supply does not match the system-calculated airflow direction  The logic for determining the system-calculated direction is: - Majority wins between present fan trays - In the case where there are equal F2B or B2F fan-trays, PSUs are used as a tie break (PSUs only are counted in the event a tie breaker is needed) - F2B wins if no tie break can be used</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	The operational state of this component
<b>Context</b>	<a href="#">platform power-supply id number oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> </ul>

- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**part-number *string*****Description**

Part number for this component

**Context**[platform power-supply id](#) *number* [part-number](#) *string***Tree**[part-number](#)**Configurable**

False

**Platforms**

Supported on all platforms

**removable** *boolean*

<b>Description</b>	Details if this component can be removed from the system
<b>Context</b>	<a href="#">platform power-supply id number removable boolean</a>
<b>Tree</b>	<a href="#">removable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**serial-number** *string*

<b>Description</b>	The serial number for this component
<b>Context</b>	<a href="#">platform power-supply id number serial-number string</a>
<b>Tree</b>	<a href="#">serial-number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**temperature**

<b>Description</b>	State related to temperature for this component
<b>Context</b>	<a href="#">platform power-supply id number temperature</a>
<b>Tree</b>	<a href="#">temperature</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**alarm-status** *boolean*

<b>Description</b>	Indicates if the temperature of this component is currently in an alarm state
<b>Context</b>	<a href="#">platform power-supply id number temperature alarm-status boolean</a>
<b>Tree</b>	<a href="#">alarm-status</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**instant** *number*

<b>Description</b>	The current temperature of this component
<b>Context</b>	<a href="#">platform power-supply id number temperature instant number</a>
<b>Tree</b>	<a href="#">instant</a>

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *string*

<b>Description</b>	Power-supply type, as translated from the components EEPROM
<b>Context</b>	<a href="#">platform power-supply id</a> <i>number</i> <a href="#">type</a> <i>string</i>
<b>Tree</b>	<a href="#">type</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**redundancy**

<b>Description</b>	Top-level container for platform redundancy
<b>Context</b>	<a href="#">platform redundancy</a>
<b>Tree</b>	<a href="#">redundancy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**active-module** *keyword*

<b>Description</b>	Control module currently active
<b>Context</b>	<a href="#">platform redundancy active-module</a> <i>keyword</i>
<b>Tree</b>	<a href="#">active-module</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• A</li> <li>• B</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**failover-time** *string*

<b>Description</b>	Date and time of the last control module failover
<b>Context</b>	<a href="#">platform redundancy failover-time</a> <i>string</i>
<b>Tree</b>	<a href="#">failover-time</a>
<b>String Length</b>	20 to 32



<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## synchronization

<b>Description</b>	Top-level container for redundancy synchronization
<b>Context</b>	<a href="#">platform redundancy synchronization</a>
<b>Tree</b>	<a href="#">synchronization</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## last-synchronization *string*

<b>Description</b>	Last date and time a synchronization of system files occurred
<b>Context</b>	<a href="#">platform redundancy synchronization last-synchronization string</a>
<b>Tree</b>	<a href="#">last-synchronization</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## overlay

<b>Description</b>	Top-level container for overlay synchronization
<b>Context</b>	<a href="#">platform redundancy synchronization overlay</a>
<b>Tree</b>	<a href="#">overlay</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## last-synchronization *string*

<b>Description</b>	Last date and time a synchronization of the overlay occurred
<b>Context</b>	<a href="#">platform redundancy synchronization overlay last-synchronization string</a>
<b>Tree</b>	<a href="#">last-synchronization</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**next-synchronization** *string*

<b>Description</b>	Next date and time a synchronization of the overlay will occur
<b>Context</b>	<a href="#">platform redundancy synchronization overlay next-synchronization</a> <i>string</i>
<b>Tree</b>	<a href="#">next-synchronization</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**synchronization-frequency** *number*

<b>Description</b>	Sets the frequency of overlay synchronizations  This has no effect if overlay is not a configured synchronization mode. Changing this value results in the timer to the next synchronization being reset.
<b>Context</b>	<a href="#">platform redundancy synchronization overlay synchronization-frequency</a> <i>number</i>
<b>Tree</b>	<a href="#">synchronization-frequency</a>
<b>Range</b>	30 to 65535
<b>Default</b>	60
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**state** *keyword*

<b>Description</b>	Current synchronization status
<b>Context</b>	<a href="#">platform redundancy synchronization state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• synchronized Standby control module is ready and synchronized</li> <li>• synchronizing Standby control module is currently synchronizing</li> <li>• not-ready Standby control module is not synchronized</li> </ul>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## resource-management

**Description** Container for managing resources in a system-wide context  
**Context** [platform resource-management](#)  
**Tree** [resource-management](#)  
**Configurable** True  
**Platforms** Supported on all platforms

## tcam

**Description** Container for managing the allocation of TCAM banks to different applications.  
**Context** [platform resource-management tcam](#)  
**Tree** [tcam](#)  
**Configurable** True  
**Platforms** Supported on all platforms

## unified-forwarding-resources

**Description** Container for managing Broadcom-specific UFT resources.  
**Context** [platform resource-management unified-forwarding-resources](#)  
**Tree** [unified-forwarding-resources](#)  
**Configurable** True  
**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3

## allocated-extra-ip-host-entries *number*

**Description** The extra number of host entries that have been allocated from UFT shared banks.  
**Context** [platform resource-management unified-forwarding-resources allocated-extra-ip-host-entries \*number\*](#)  
**Tree** [allocated-extra-ip-host-entries](#)  
**Range** 0 to 262144  
**Configurable** False

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D2

### **allocated-extra-mac-entries** *number*

**Description** The extra number of MAC address entries that have been allocated from UFT shared banks.

**Context** [platform resource-management unified-forwarding-resources allocated-extra-mac-entries](#) *number*

**Tree** [allocated-extra-mac-entries](#)

**Range** 0 to 262144

**Configurable** False

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D2

### **alpm** *keyword*

**Description** Controls the ALPM mode.

If this is set to disabled then no UFT banks are allocated to ALPM. This mode is not supported by 7220 IXR-D4 or 7220 IXR-D5.

If this is set to enabled then 4 UFT shared banks are allocated to ALPM. This mode is not supported by 7220 IXR-D2 or 7220 IXR-D3.

If this is set to high-scale then 8 UFT shared banks are allocated to ALPM. This mode is not supported by 7220 IXR-D1.

**Context** [platform resource-management unified-forwarding-resources alpm](#) *keyword*

**Tree** [alpm](#)

**Options**

- disabled
- enabled
- high-scale

**Configurable** True

**Platforms** 7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ipv6-128bit-lpm-entries** *number*

**Description** Sets the value for num\_ipv6\_lpm\_128b\_entries, which affects IP FIB scale.  
H2/H3 range: 0-1024 D1 range: 0-4096 D2/D3 range: 0-8192

**Context** [platform resource-management unified-forwarding-resources ipv6-128bit-lpm-entries](#) *number*

<b>Tree</b>	<a href="#">ipv6-128bit-lpm-entries</a>
<b>Range</b>	0 to 8192
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

### requested-extra-ip-host-entries *number*

<b>Description</b>	<p>The extra number of host entries that are desired.</p> <p>The number of UFT shared banks that are reserved for IPv4 and IPv6 host entries is given by: <math>\min(N/X, P-A)</math></p> <p>where: N = configured value of requested-extra-ip-host-entries X = the size of each shared bank, which is platform specific P-A = platform-specific number of shared banks, subtracting the ALPM banks</p> <p>requested-extra-ip-host-entries is interpreted in terms of IPv4 hosts (single-wide entries). IPv6 host entries are double-wide so 1 IPv4 host entry + 1 IPv6 host-entry counts as 3 entries.</p> <p>All UFT shared banks that are not reserved by ALPM and not reserved for extra IP host entries are used for extra MAC entries.</p> <p>On D1 the default value is 48K entries, which provides 3 shared banks, max is 96K. On D2/D3 the default value is 128K entries, which provides 4 shared banks, max is 256K.</p>
<b>Context</b>	<a href="#">platform resource-management unified-forwarding-resources requested-extra-ip-host-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">requested-extra-ip-host-entries</a>
<b>Range</b>	0 to 262144
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D2

### xdp-restart-required *boolean*

<b>Description</b>	Reads true if the user has committed a change to one or more of the configurable values in the uft container but has not yet restarted XDP so the operational values are still the values initialized at the last XDP restart.
<b>Context</b>	<a href="#">platform resource-management unified-forwarding-resources xdp-restart-required</a> <i>boolean</i>
<b>Tree</b>	<a href="#">xdp-restart-required</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3

## resource-monitoring

<b>Description</b>	Enter the resource-monitoring context
<b>Context</b>	<a href="#">platform resource-monitoring</a>
<b>Tree</b>	<a href="#">resource-monitoring</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## acl

<b>Description</b>	Enter the acl context
<b>Context</b>	<a href="#">platform resource-monitoring acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## resource [name identityref](#)

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform resource-monitoring acl resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## name [identityref](#)

<b>Description</b>	The name of the ACL resource
<b>Context</b>	<a href="#">platform resource-monitoring acl resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>input-ipv4-filter-instances This resource is used every time an IPv4 filter instance is created and applied to ingress traffic on the forwarding complex. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every subinterface using the IPv4 filter.</li> <li>input-ipv4-qos-multifield-instances This resource is used every time an IPv4 multifield classifier policy is applied to ingress traffic on a subinterface.</li> <li>input-ipv4-filter-instances-routed</li> </ul>

This resource is used every time an IPv4 filter instance is created and applied to ingress traffic on routed subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every routed subinterface using the IPv4 filter.

- input-ipv4-filter-instances-bridged

This resource is used every time an IPv4 filter instance is created and applied to ingress traffic on bridged subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every bridged subinterface using the IPv4 filter.

- input-ipv6-filter-instances

This resource is used every time an IPv6 filter instance is created and applied to ingress traffic on the forwarding complex. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every subinterface using the IPv6 filter.

- input-ipv6-qos-multifield-instances

This resource is used every time an IPv6 multifield classifier policy is applied to ingress traffic on a subinterface.

- input-ipv6-filter-instances-routed

This resource is used every time an IPv6 filter instance is created and applied to ingress traffic on routed subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every routed subinterface using the IPv6 filter.

- input-ipv6-filter-instances-bridged

This resource is used every time an IPv6 filter instance is created and applied to ingress traffic on bridged subinterfaces. Only one instance is used if the subinterface-specific property of the filter is set to output-only; otherwise one instance is used for every bridged subinterface using the IPv6 filter.

- if-input-ipv4-stats

Resource pool of stats entries available for ingress IPv4 ACLs

- if-input-ipv6-stats

Resource pool of stats entries available for ingress IPv6 ACLs

- if-output-ipv4-stats

Resource pool of stats entries available for egress IPv4 ACLs

- if-output-ipv6-stats

Resource pool of stats entries available for egress IPv6 ACLs

- if-output-cpm-stats

Resource pool of stats entries shared by egress IPv4/IPv6/MAC TCAM entries, and CPM-filter IPv4/IPv6/MAC TCAM entries

Egress Ipv4 -> uses single stat counter Egress Ipv6 -> uses single stat counter Egress MAC -> uses single stat counter Cpm Ipv4 -> uses two stat counters Cpm Ipv6 -> uses two stat counters Cpm MAC -> uses two stat counters

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### falling-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a NOTICE log whenever the utilization of the ACL resource in any linecard/complex/core falls reaches this value in a falling direction
<b>Context</b>	<a href="#">platform resource-monitoring acl resource name <i>identityref</i> falling-threshold-log <i>number</i></a>
<b>Tree</b>	<a href="#">falling-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	70
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### rising-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a WARNING log whenever the utilization of the ACL resource in any linecard/complex/core reaches this value in a rising direction
<b>Context</b>	<a href="#">platform resource-monitoring acl resource name <i>identityref</i> rising-threshold-log <i>number</i></a>
<b>Tree</b>	<a href="#">rising-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### datapath

<b>Description</b>	Container for monitoring datapath resources system-wide
<b>Context</b>	<a href="#">platform resource-monitoring datapath</a>
<b>Tree</b>	<a href="#">datapath</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## asic

<b>Description</b>	Container for monitoring datapath resources that are specific to a subset of the chipsets supported by SR Linux.
<b>Context</b>	<a href="#">platform resource-monitoring datapath asic</a>
<b>Tree</b>	<a href="#">asic</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## resource [name identityref](#)

<b>Description</b>	List of ASIC-specific datapath resources
<b>Context</b>	<a href="#">platform resource-monitoring datapath asic resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## name [identityref](#)

<b>Description</b>	The name of the ASIC-specific datapath resource.
<b>Context</b>	<a href="#">platform resource-monitoring datapath asic resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ip-lpm-ipv4-routes</a> <p>Trident3: Reports the number of IPv4 entries in the hardware LPM table. In non-ALPM mode, free entries is the remaining number of half-wide entries in all partitions (i.e. it assumes no IPv6 routes consume those entries). In ALPM mode, free entries is the Minimum Guaranteed Capacity returned by the BCM SDK.</p> <p>Trident4 and Tomahawk3: Reports the number of IPv4 routes installed in the FIB. Free entries is the Minimum Guaranteed Capacity returned by the BCM SDK.</p> </li> <li>• <a href="#">ip-lpm-ipv6-routes</a> <p>Reports the number of IPv6 routes installed in the FIB. Free entries is the Minimum Guaranteed Capacity returned by the BCM SDK.</p> </li> <li>• <a href="#">ip-lpm-ipv6-shorter-routes</a> <p>Trident3: Reports the number of IPv6 entries with prefix length less than 65 bits in the hardware LPM table. In non-ALPM mode, free entries is the</p> </li> </ul>

remaining number of single-wide + double-wide entries (i.e. it assumes no other types of routes consume those entries). In ALPM mode, free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

Tomahawk3: Reports the number of IPv6 entries with prefix length less than 65 bits installed in the FIB. Free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

- ip-lpm-ipv6-longer-routes

Trident3: Reports the number of IPv6 entries with prefix length greater than 64 bits in the hardware LPM table. In non-ALPM mode, free entries is the remaining number of double-wide entries (i.e. it assumes no other types of routes consume those entries). In ALPM mode, free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

Tomahawk3: Reports the number of IPv6 entries with prefix length greater than 64 bits installed in the FIB. Free entries is based on the Minimum Guaranteed Capacity returned by the BCM SDK.

- exact-match-entries

Reports the number of half-wide entries used in the LEM table. Each MPLS ILM record uses one half-wide entry. Each IPv4 address used as a host route, ARP entry or subnet broadcast address requires a half-wide entry. An IPv6 address used as a host route, or ND entry requires a single-wide entry (2 half-wide entries). Free entries is the remaining number of half-wide entries.

- underlay-ecmp-groups

Underlay ECMP group resources.

ECMP groups are partitioned into overlay and underlay groups. The underlay partition is further subdivided into groups used for underlay ECMP and groups used for VP LAGs (EVPN M-H). This counts the utilization of the sub-resource used for ECMP.

- vp-lag-groups

VP LAG group resources.

ECMP groups are partitioned into overlay and underlay groups. The underlay partition is further subdivided into groups used for underlay ECMP and groups used for VP LAGs (EVPN M-H). This counts the utilization of the sub-resource used for VP LAGs.

- overlay-ecmp-groups

Overlay ECMP group resources.

ECMP groups are partitioned into overlay and underlay groups. This counts the utilization of the overlay ECMP partition.

- underlay-ecmp-members

Underlay ECMP member resources.

ECMP members are partitioned into overlay and underlay. This counts the utilization of the partition used for underlay.

- overlay-ecmp-members  
Overlay ECMP member resources.  
ECMP members are partitioned into overlay and underlay. This counts the utilization of the partition used for overlay.
- underlay-egress-next-hops  
Underlay egress next-hop resources.  
Egress next-hops are partitioned into overlay and underlay. This counts the utilization of the partition used for underlay.
- overlay-egress-next-hops  
Overlay egress next-hop resources.  
Egress next-hops are partitioned into overlay and underlay. This counts the utilization of the partition used for overlay.
- dgpp-module-ids  
DGPP module ID resources.  
DGPPs are an aggregate id consisting of a module\_id and a port\_id. There are 64 modules and 120 ports per module. Each 'network' ARP entry (IP next-hop) needs a DGPP - the module\_id is allocated against the network interface (port) and a port\_id is allocated from within the module. A module\_id will only be allocated when the first ArpEntry is added (freed when last is removed) but is owned exclusively by that network interface. A network interface may require more than one module\_id - i.e. if there are 245 ArpEntries on ethernet-1/1 (possibly spread across multiple network-instance interfaces) then 3 module\_ids are required.
- egress-vlan-translate-egress-vnis  
EGR\_VLAN\_XLATE\_1 resources.  
Corresponds to the 'EGR\_VLAN\_XLATE\_1' HW table (8K entries). These entries are used for finding the egress VNI to be used for VXLAN packets.
- egress-vlan-translate-local-bias-pairs  
EGR\_VLAN\_XLATE\_2 resources.  
Corresponds to the 'EGR\_VLAN\_XLATE\_2' HW table (24K entries). These entries are used for local bias (ES pruning).
- level-1-ecmp-groups  
L1 ECMP group resources.  
ECMP FEC resources are divided into L1 ECMP FEC resources and L2 ECMP FEC resources. This counts the number of entries used in the L1 partition.
- level-2-ecmp-groups  
L2 ECMP group resources.

ECMP FEC resources are divided into L1 ECMP FEC resources and L2 ECMP FEC resources. This counts the number of entries used in the L2 partition.

- level-1-ecmp-members

L1 ECMP member resources.

ECMP FEC member resources are divided into L1 and L2 resources. This counts the number of entries used in the L1 partition.

- level-2-ecmp-members

L2 ECMP member resources.

ECMP FEC member resources are divided into L1 and L2 resources. This counts the number of entries used in the L2 partition.

- level-1-non-ecmp-fecs

L1 non-ECMP FEC resources.

Non-ECMP FEC resources are divided into L1 and L2 resources. This counts the number of entries used in the L1 partition.

- level-2-non-ecmp-fecs

L2 non-ECMP FEC resources.

Non-ECMP FEC resources are divided into L1 and L2 resources. This counts the number of entries used in the L2 partition.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **falling-threshold-log** *number*

<b>Description</b>	Sets the threshold that triggers the generation of a NOTICE log whenever the utilization of the datapath resource in any linecard (if applicable) or forwarding complex or pipeline (if applicable) reaches this value in a falling direction
<b>Context</b>	<a href="#">platform resource-monitoring datapath asic resource name</a> <i>identityref</i> <a href="#">falling-threshold-log</a> <i>number</i>
<b>Tree</b>	<a href="#">falling-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	70
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rising-threshold-log** *number*

<b>Description</b>	Sets the threshold that triggers the generation of a WARNING log whenever the utilization of the datapath resource in any linecard (if applicable) or forwarding complex or pipeline (if applicable) reaches this value in a rising direction
<b>Context</b>	<a href="#">platform resource-monitoring datapath asic resource name <i>identityref</i> rising-threshold-log</a> <i>number</i>
<b>Tree</b>	<a href="#">rising-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**xdp**

<b>Description</b>	Container for monitoring datapath resources that are generic in concept.
<b>Context</b>	<a href="#">platform resource-monitoring datapath xdp</a>
<b>Tree</b>	<a href="#">xdp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**resource** *name identityref*

<b>Description</b>	List of generic datapath resources
<b>Context</b>	<a href="#">platform resource-monitoring datapath xdp resource name <i>identityref</i></a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *identityref*

<b>Description</b>	The name of the XDP datapath resource.  Some of these resources may be software only (i.e. no correspondence to a hardware table).  Some of these resources may depend on multiple HW tables and when the utilization is reported it represents an aggregated or summarized view.
<b>Context</b>	<a href="#">platform resource-monitoring datapath xdp resource name <i>identityref</i></a>

## Options

- arp-nd-entries  
IPv4 ARP and IPv6 neighbor discovery resources.  
Each IPv4 ARP and each IPv6 neighbor entry counts as 1 used resource against a total that is platform dependent. This does not consider underlying ASIC resources.
- ip-hosts  
IP host route resources.  
Trident3: Reports the number of entries used in the IP host table. Every local host /32 route, ARP entry and IPv4 subnet broadcast address requires 1 entry. In non-ALPM operation every remote /32 route also requires 1 entry. Every local host /128 route, and ND entry requires 2 entries. In non-ALPM operation every remote /128 route also requires 2 entries. Free entries reflects the total number of entries remaining in shared + dedicated UFT banks  
Trident4 and Tomahawk3: Reports the number of entries used in the IP host table. Every local host /32 route, ARP entry and IPv4 subnet broadcast address requires 1 entry. Every local host /128 route, and ND entry requires 2 entries.
- ip-lpm-routes  
IP longest prefix match route resources.  
Jericho2: Every installed IPv4 and IPv6 route counts as one used route.  
Trident3 and Tomahawk3: In ALPM-disabled mode: Reports the number of half-wide entries. An IPv4 route requires a half-wide entry. An IPv6 route that is /64 or less requires a single-wide entry (2 half-wide entries). An IPv6 route that is more than /64 requires a double-wide entry (4 half-wide entries). In ALPM mode: Every IPv4 route counts as 1 used route and every IPv6 route (regardless of prefix length) counts as 2 used routes.  
Trident4: Every IPv4 route counts as 1 used route and every IPv6 route (regardless of prefix length) counts as 4 used routes.
- mac-addresses  
MAC address resources.  
Reports the number of entries used in the MAC lookup table. On TD3, free entries reflects the total number of entries remaining in shared + dedicated UFT banks
- direct-next-hops  
Direct next-hop resources.  
Reports the number of entries, where 1 entry is used for every next-hop of an IP or MPLS route that is resolved directly to a local interface. This does not consider underlying ASIC resources.
- indirect-next-hops  
Indirect next-hop resources.

Reports the number of entries, where 1 entry is used for every next-hop of an IP route that is resolved by a non-local route. This does not consider underlying ASIC resources.

- tunnel-next-hops

Tunnel next-hop resources.

Reports the number of tunnel next-hop entries. For EVPN routes resolved by VXLAN, 1 entry is used for every <vni, vtep> pair. When a BGP IP route is resolved by an MPLS tunnel, 1 entry is used for every BGP next-hop of the route. This does not consider underlying ASIC resources.

- ecmp-groups

ECMP group resources.

Jericho2: Reports the used number of ECMP FECs, adding L1 ECMP FECs and L2 ECMP FECs.

Trident3: Reports the used number of ECMP groups, adding overlay and underlay ECMP groups.

Trident4 and Tomahawk3: Reports used number of ECMP groups.

- ecmp-members

ECMP member resources.

Jericho2: Reports the used number of ECMP member FECs, adding L1 ECMP member FECs and L2 ECMP member FECs.

Trident3: Reports the used number of ECMP members, adding overlay and underlay ECMP members.

Trident4 and Tomahawk3: Reports used number of ECMP members.

- egress-next-hops

Egress next-hop resources.

Trident3: Reports the number of entries used in the egress next-hop table, counting entries in the overlay partition and entries in the underlay partition. 1 entry = 1 IPv4 next-hop address or 1 IPv6 next-hop address.

Trident4 and Tomahawk3: Reports the number of entries used in the egress next-hop table. 1 entry = 1 IPv4 next-hop address or 1 IPv6 next-hop address.

- lag-groups

LAG group resources.

Reports the number of LAG resources used, including DGPP LAGs.

- lag-members

LAG member resources.

Reports the number of LAG member resources used, including DGPP LAG members.

- subinterfaces

Subinterface resources.

There are a maximum of 127 subinterfaces per TH3 pipeline (limited by VFP/EFP TCAM resources). This counts the utilization of those resources.

- **mpls-next-hops**

One resource is used for every next-hop that pushes an MPLS label in every next-hop-group that is tied to an ILM entry that performs a 'swap'. One additional resource is used for every next-hop that pushes an MPLS label in every next-hop-group that is tied to an MPLS tunnel.

- **mpls-incoming-labels**

One resource is used for every MPLS ILM entry that performs either a 'swap' or a 'pop' operation.

- **tunnels**

Tunnel resources. One tunnel resource is used per VXLAN or MPLS tunnel endpoint.

On TD3 and TD4 systems this equates to a DVP resource.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **falling-threshold-log *number***

<b>Description</b>	Sets the threshold that triggers the generation of a NOTICE log whenever the utilization of the datapath resource in any linecard (if applicable) or forwarding complex or pipeline (if applicable) reaches this value in a falling direction
<b>Context</b>	<a href="#">platform resource-monitoring datapath xdp resource name <i>identityref</i> falling-threshold-log <i>number</i></a>
<b>Tree</b>	<a href="#">falling-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	70
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **rising-threshold-log *number***

<b>Description</b>	Sets the threshold that triggers the generation of a WARNING log whenever the utilization of the datapath resource in any linecard (if applicable) or forwarding complex or pipeline (if applicable) reaches this value in a rising direction
<b>Context</b>	<a href="#">platform resource-monitoring datapath xdp resource name <i>identityref</i> rising-threshold-log <i>number</i></a>



<b>Tree</b>	<a href="#">rising-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## mtu

<b>Description</b>	Enter the mtu context
<b>Context</b>	<a href="#">platform resource-monitoring mtu</a>
<b>Tree</b>	<a href="#">mtu</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## resource [name identityref](#)

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform resource-monitoring mtu resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## name [identityref](#)

<b>Description</b>	The name of the MTU resource
<b>Context</b>	<a href="#">platform resource-monitoring mtu resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ip-mtu IP MTU resource pool. One resource from this pool is consumed by every different IP MTU value used by the subinterfaces on the linecard forwarding-complex.</li> <li>• port-mtu Port MTU resource pool. One resource from this pool is consumed by every different port MTU value used by a port on the linecard forwarding-complex.</li> <li>• mpls-mtu</li> </ul>

MPLS MTU resource pool. One resource from this pool is consumed by every different MPLS MTU value used by the subinterfaces on the linecard forwarding-complex.

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### falling-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a NOTICE log whenever the utilization of the MTU resource in any linecard/complex/core reaches this value in a falling direction and this is the first trigger since the last rising-threshold-log was triggered.
<b>Context</b>	<a href="#">platform resource-monitoring mtu resource name <i>identityref</i> falling-threshold-log <i>number</i></a>
<b>Tree</b>	<a href="#">falling-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	70
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### rising-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a WARNING log whenever the utilization of the MTU resource in any linecard/complex/core reaches this value in a rising direction and this is the first trigger since the last restart or since the last falling-threshold-log was triggered.
<b>Context</b>	<a href="#">platform resource-monitoring mtu resource name <i>identityref</i> rising-threshold-log <i>number</i></a>
<b>Tree</b>	<a href="#">rising-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### qos

<b>Description</b>	Enter the qos context
<b>Context</b>	<a href="#">platform resource-monitoring qos</a>

<b>Tree</b>	<a href="#">qos</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### resource [name identityref](#)

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform resource-monitoring qos resource name identityref</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### name [identityref](#)

<b>Description</b>	The name of the QoS resource
<b>Context</b>	<a href="#">platform resource-monitoring qos resource name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• classifier-profiles A classifier-profile resource is used every time a different combination of IPv4 DSCP classifier and IPv6 DSCP classifier is applied to an ingress subinterface of the 7250 IXR IMM. There are 16 of these resources and one is always used by the combination of the default IPv4 DSCP classifier and the default IPv6 DSCP classifier.</li> <li>• rewrite-profiles On the 7250 IXR, a rewrite-profile resource is used every time a different combination of IPv4 DSCP rewrite-rule and IPv6 DSCP rewrite-rule is applied to an egress subinterface of the 7250 IXR IMM. There are 32 of these resources.</li> <li>• rewrite-policies A rewrite-policy resource is used every time a different DSCP or MPLS traffic-class rewrite-rule policy is applied to an egress subinterface of the 7250 IXR IMM. There are 32 of these resources.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### falling-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a NOTICE log whenever the utilization of the QoS resource in any linecard/complex/core falls reaches this value in a falling direction
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<b>Context</b>	<a href="#">platform resource-monitoring qos resource name <i>identityref</i> falling-threshold-log number</a>
<b>Tree</b>	<a href="#">falling-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	70
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### rising-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a WARNING log whenever the utilization of the QoS resource in any linecard/complex/core reaches this value in a rising direction
<b>Context</b>	<a href="#">platform resource-monitoring qos resource name <i>identityref</i> rising-threshold-log number</a>
<b>Tree</b>	<a href="#">rising-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### tcam

<b>Description</b>	Enter the tcam context
<b>Context</b>	<a href="#">platform resource-monitoring tcam</a>
<b>Tree</b>	<a href="#">tcam</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### resource name *identityref*

<b>Description</b>	Enter the resource list instance
<b>Context</b>	<a href="#">platform resource-monitoring tcam resource name <i>identityref</i></a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *identityref***Description**

The name of the TCAM resource

**Context**

[platform resource-monitoring tcam resource name](#) *identityref*

**Options**

- `if-input-ipv4`  
Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-input filters
- `if-output-ipv4`  
Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-output filters
- `if-input-ipv6`  
Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-input filters
- `if-output-ipv6`  
Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-output filters
- `cpm-capture-ipv4`  
Resource pool of TCAM entries used by IPv4 cpm-filter ACLs and capture-filter ACLs
- `cpm-capture-ipv6`  
Resource pool of TCAM entries used by IPv6 cpm-filter ACLs and capture-filter ACLs
- `system-capture-ipv4`  
Resource pool of TCAM entries used by IPv4 capture-filter ACLs and IPv4 system-filter ACLs
- `system-capture-ipv6`  
Resource pool of TCAM entries used by IPv6 capture-filter ACLs and IPv6 system-filter ACLs
- `system-capture`  
Resource pool of TCAM entries used by IPv4 + IPv6 capture-filter ACLs and system-filter ACLs
- `capture-ipv4`  
Resource pool of TCAM entries used by IPv4 capture-filter ACLs
- `capture-ipv6`  
Resource pool of TCAM entries used by IPv6 capture-filter ACLs
- `if-output-cpm-ipv4`  
Resource pool of TCAM entries used by IPv4 egress ACLs and cpm-filter ACLs
- `if-output-cpm-ipv6`

- Resource pool of TCAM entries used by IPv6 egress ACLs and cpm-filter ACLs
- if-output-cpm
  - Resource pool of TCAM entries used by IPv4 + IPv6 egress ACLs and cpm-filter ACLs
- if-input-mac
  - Resource pool of TCAM entries used by MAC ACLs applied as subinterface-input filters
- if-output-cpm-mac
  - Resource pool of TCAM entries used by MAC egress ACLs and MAC cpm-filter ACLs
- policy-forwarding-ipv4
  - Resource pool of TCAM entries used by IPv4 policy-forwarding entries
- if-input-policer
  - Resource pool of TCAM entries used by ingress subinterface policer templates
- if-input-ipv4-qos
  - Resource pool of TCAM entries associated with IPv4 multi-field QoS classification entries, when applied to subinterface input
- if-input-ipv6-qos
  - Resource pool of TCAM entries associated with IPv6 multi-field QoS classification entries, when applied to subinterface input

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### falling-threshold-log *number*

<b>Description</b>	Sets the threshold that triggers the generation of a NOTICE log whenever the utilization of the TCAM resource in any linecard/complex/core falls reaches this value in a falling direction.  On platforms that support dynamic TCAM the utilization considers both free-dynamic and free-static.
<b>Context</b>	<a href="#">platform resource-monitoring tcam resource name <i>identityref</i> falling-threshold-log <i>number</i></a>
<b>Tree</b>	<a href="#">falling-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	70
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

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**rising-threshold-log** *number*

<b>Description</b>	Sets the threshold that triggers the generation of a WARNING log whenever the utilization of the TCAM resource in any linecard/complex/core reaches this value in a rising direction  On platforms that support dynamic TCAM the utilization considers both free-dynamic and free-static.
<b>Context</b>	<a href="#">platform resource-monitoring tcam resource name</a> <i>identityref</i> <a href="#">rising-threshold-log</a> <i>number</i>
<b>Tree</b>	<a href="#">rising-threshold-log</a>
<b>Range</b>	0 to 100
<b>Default</b>	90
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 8 qos

```

qos
+ classifiers
+ dot1p-policy name string
+ dot1p value number
+ drop-probability keyword
+ forwarding-class (reference | keyword)
+ dscp-policy name string
+ dscp value number
+ drop-probability keyword
+ forwarding-class (reference | keyword)
+ mpls-traffic-class-policy name string
+ traffic-class value number
+ drop-probability keyword
+ forwarding-class (reference | keyword)
+ multifield
+ ipv4-policy name string
+ entry sequence-id number
+ action
+ drop-probability keyword
+ forwarding-class (keyword | reference)
+ rewrite
+ set-dscp number
+ match
+ destination-ip
+ address string
+ mask string
+ prefix string
+ destination-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ dscp-set (number | keyword)
+ first-fragment boolean
+ fragment boolean
+ icmp
+ code number
+ type (number | keyword)
+ protocol (number | keyword)
+ source-ip
+ address string
+ mask string
+ prefix string
+ source-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ tcp-flags string
- tcam-entries
- forwarding-complex complex-identifier string
- input-total number
- output-total number
- single-instance number

```



```

+ ipv6-policy name string
+ entry sequence-id number
+ action
+ drop-probability keyword
+ forwarding-class (keyword | reference)
+ rewrite
+ set-dscp number
+ match
+ destination-ip
+ address string
+ mask string
+ prefix string
+ destination-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ dscp-set (number | keyword)
+ icmp6
+ code number
+ type (number | keyword)
+ next-header (number | keyword)
+ source-ip
+ address string
+ mask string
+ prefix string
+ source-port
+ operator keyword
+ range
+ end (number | keyword)
+ start (number | keyword)
+ value (number | keyword)
+ tcp-flags string
- tcam-entries
- forwarding-complex complex-identifier string
- input-total number
- output-total number
- single-instance number
+ vxlan-default reference
+ explicit-congestion-notification
+ ecn-dscp-policy reference
+ forwarding-classes
+ forwarding-class name string
+ forwarding-class-index number
+ output
+ multicast-queue reference
+ unicast-queue reference
+ policer-templates
+ policer-template name string
+ policer sequence-id number
+ committed-burst-size number
+ committed-rate-kbps number
+ exceed-action
+ drop-probability keyword
+ forwarding-class fc (reference | keyword)
+ forwarding-type keyword
+ maximum-burst-size number
+ peak-rate-kbps number
+ violate-action
+ drop
+ drop-probability keyword
+ statistics-mode keyword
+ preserve-dscp boolean

```

```

+ queue-templates
+ queue-template name string
+ active-queue-management
+   ecn-slope ecn-drop-probability keyword
+   max-probability number
+   max-threshold-percent number
+   min-threshold-percent number
+   weight-factor number
+   wred-slope traffic-type keyword drop-probability keyword
+   max-probability number
+   max-threshold-percent number
+   min-threshold-percent number
+ queue-depth
+   high-threshold-bytes number
+   maximum-burst-size number
+ queues
+ queue name string
+ rewrite-rules
+   dot1p-policy name string
+   map forwarding-class (reference | keyword)
+   dot1p number
+   drop-probability drop-probability keyword
+   dot1p number
+   dscp-policy name string
+   map forwarding-class (reference | keyword)
+   drop-probability drop-probability keyword
+   dscp (number | keyword)
+   dscp (number | keyword)
+   mpls-traffic-class-policy name string
+   map forwarding-class (reference | keyword)
+   drop-probability drop-probability keyword
+   traffic-class number
+   traffic-class number
+   vxlan-outer-header-dscp-policy reference
+ scheduler-policies
+ scheduler-policy name string
+ scheduler sequence number
+   input id string
+   queue (reference | keyword)
+   weight number
+   priority keyword

```

## 8.1 qos Descriptions

### qos

<b>Description</b>	Top-level container for QoS data
<b>Context</b>	<a href="#">qos</a>
<b>Tree</b>	<a href="#">qos</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### classifiers

<b>Description</b>	Enter the classifiers context
<b>Context</b>	<a href="#">qos classifiers</a>
<b>Tree</b>	<a href="#">classifiers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### dot1p-policy *name string*

<b>Description</b>	Enter the dot1p-policy list instance
<b>Context</b>	<a href="#">qos classifiers dot1p-policy name string</a>
<b>Tree</b>	<a href="#">dot1p-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### name *string*

<b>Description</b>	User-configured name for a 802.1p priority code point mapping policy The name 'default' is reserved for the system default dot1p mapping policy.
<b>Context</b>	<a href="#">qos classifiers dot1p-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**dot1p value number**

<b>Description</b>	Enter the dot1p list instance
<b>Context</b>	<a href="#">qos classifiers dot1p-policy name</a> <i>string</i> <a href="#">dot1p value number</a>
<b>Tree</b>	<a href="#">dot1p</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**value number**

<b>Description</b>	Enter the value context
<b>Context</b>	<a href="#">qos classifiers dot1p-policy name</a> <i>string</i> <a href="#">dot1p value number</a>
<b>Range</b>	0 to 7
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**drop-probability keyword**

<b>Description</b>	The drop probability to which the dot1p value is mapped
<b>Context</b>	<a href="#">qos classifiers dot1p-policy name</a> <i>string</i> <a href="#">dot1p value number</a> <a href="#">drop-probability keyword</a>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**forwarding-class (reference | keyword)**

<b>Description</b>	The forwarding class to which the dot1p value is mapped
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<b>Context</b>	<a href="#">qos classifiers dot1p-policy name</a> <i>string</i> <a href="#">dot1p value</a> <i>number</i> <a href="#">forwarding-class</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"><li>• <a href="#">fc0</a> System default forwarding-class name for the FC with index 0</li><li>• <a href="#">fc1</a> System default forwarding-class name for the FC with index 1</li><li>• <a href="#">fc2</a> System default forwarding-class name for the FC with index 2</li><li>• <a href="#">fc3</a> System default forwarding-class name for the FC with index 3</li><li>• <a href="#">fc4</a> System default forwarding-class name for the FC with index 4</li><li>• <a href="#">fc5</a> System default forwarding-class name for the FC with index 5</li><li>• <a href="#">fc6</a> System default forwarding-class name for the FC with index 6</li><li>• <a href="#">fc7</a> System default forwarding-class name for the FC with index 7</li><li>• <a href="#">fc8</a> System default forwarding-class name for the FC with index 8</li><li>• <a href="#">fc9</a> System default forwarding-class name for the FC with index 9</li><li>• <a href="#">fc10</a> System default forwarding-class name for the FC with index 10</li><li>• <a href="#">fc11</a> System default forwarding-class name for the FC with index 11</li><li>• <a href="#">fc12</a> System default forwarding-class name for the FC with index 12</li><li>• <a href="#">fc13</a> System default forwarding-class name for the FC with index 13</li><li>• <a href="#">fc14</a> System default forwarding-class name for the FC with index 14</li><li>• <a href="#">fc15</a> System default forwarding-class name for the FC with index 15</li></ul>
<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **dscp-policy** *name string*

<b>Description</b>	Enter the dscp-policy list instance
<b>Context</b>	<a href="#">qos classifiers dscp-policy name string</a>
<b>Tree</b>	<a href="#">dscp-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **name** *string*

<b>Description</b>	User-configured name for a DSCP mapping policy The name 'default' is reserved for the system default DSCP mapping policy.
<b>Context</b>	<a href="#">qos classifiers dscp-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **dscp** *value number*

<b>Description</b>	Enter the dscp list instance
<b>Context</b>	<a href="#">qos classifiers dscp-policy name string dscp value number</a>
<b>Tree</b>	<a href="#">dscp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **value** *number*

<b>Description</b>	Enter the value context
<b>Context</b>	<a href="#">qos classifiers dscp-policy name string dscp value number</a>
<b>Range</b>	0 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**drop-probability** *keyword*

<b>Description</b>	The drop probability to which the DSCP value is mapped
<b>Context</b>	<a href="#">qos classifiers dscp-policy name</a> <i>string</i> <a href="#">dscp value</a> <i>number</i> <a href="#">drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**forwarding-class** (*reference* | *keyword*)

<b>Description</b>	The forwarding class to which the DSCP value is mapped
<b>Context</b>	<a href="#">qos classifiers dscp-policy name</a> <i>string</i> <a href="#">dscp value</a> <i>number</i> <a href="#">forwarding-class</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> <li>• fc5 System default forwarding-class name for the FC with index 5</li> <li>• fc6</li> </ul>

- System default forwarding-class name for the FC with index 6
- fc7  
System default forwarding-class name for the FC with index 7
- fc8  
System default forwarding-class name for the FC with index 8
- fc9  
System default forwarding-class name for the FC with index 9
- fc10  
System default forwarding-class name for the FC with index 10
- fc11  
System default forwarding-class name for the FC with index 11
- fc12  
System default forwarding-class name for the FC with index 12
- fc13  
System default forwarding-class name for the FC with index 13
- fc14  
System default forwarding-class name for the FC with index 14
- fc15  
System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **mpls-traffic-class-policy name string**

<b>Description</b>	Enter the mpls-traffic-class-policy list instance
<b>Context</b>	<a href="#">qos classifiers mpls-traffic-class-policy name string</a>
<b>Tree</b>	<a href="#">mpls-traffic-class-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **name string**

<b>Description</b>	User-configured name for an MPLS traffic-class mapping policy The name 'default' is reserved for the system default MPLS TC mapping policy.
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<b>Context</b>	<a href="#">qos classifiers mpls-traffic-class-policy name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **traffic-class** *value number*

<b>Description</b>	Enter the traffic-class list instance
<b>Context</b>	<a href="#">qos classifiers mpls-traffic-class-policy name</a> <i>string</i> <a href="#">traffic-class value number</a>
<b>Tree</b>	<a href="#">traffic-class</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **value** *number*

<b>Description</b>	A single traffic-class value
<b>Context</b>	<a href="#">qos classifiers mpls-traffic-class-policy name</a> <i>string</i> <a href="#">traffic-class value number</a>
<b>Range</b>	0 to 7
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **drop-probability** *keyword*

<b>Description</b>	The drop probability to which the traffic-class value is mapped
<b>Context</b>	<a href="#">qos classifiers mpls-traffic-class-policy name</a> <i>string</i> <a href="#">traffic-class value number</a> <a href="#">drop-probability keyword</a>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high</li> </ul>

Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **forwarding-class** (*reference* | *keyword*)

<b>Description</b>	The forwarding class to which the MPLS traffic-class value is mapped
<b>Context</b>	<a href="#">qos classifiers mpls-traffic-class-policy name</a> <i>string</i> <a href="#">traffic-class value number forwarding-class</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> <li>• fc5 System default forwarding-class name for the FC with index 5</li> <li>• fc6 System default forwarding-class name for the FC with index 6</li> <li>• fc7 System default forwarding-class name for the FC with index 7</li> <li>• fc8 System default forwarding-class name for the FC with index 8</li> <li>• fc9 System default forwarding-class name for the FC with index 9</li> <li>• fc10 System default forwarding-class name for the FC with index 10</li> <li>• fc11 System default forwarding-class name for the FC with index 11</li> <li>• fc12</li> </ul>

System default forwarding-class name for the FC with index 12

- fc13

System default forwarding-class name for the FC with index 13

- fc14

System default forwarding-class name for the FC with index 14

- fc15

System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## multifield

<b>Description</b>	Container for multifield classification policies
<b>Context</b>	<a href="#">qos classifiers multifield</a>
<b>Tree</b>	<a href="#">multifield</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## ipv4-policy [name string](#)

<b>Description</b>	List of IPv4 classifier policies
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string</a>
<b>Tree</b>	<a href="#">ipv4-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## name [string](#)

<b>Description</b>	Name of the IPv4 classifier policy.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### entry *sequence-id number*

**Description** List of classifier rules.

**Context** [qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id number](#)

**Tree** [entry](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### sequence-id *number*

**Description** A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries

**Context** [qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id number](#)

**Range** 1 to 65535

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### action

**Description** Container for the actions to be applied to packets matching the classifier entry.

**Context** [qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id number](#) [action](#)

**Tree** [action](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### drop-probability *keyword*

**Description** Assign matching packets to the specified drop probability level  
The implicit default, if not specified, is low drop-probability.

<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **forwarding-class** (*keyword* | *reference*)

<b>Description</b>	The forwarding class to which the DSCP value is mapped
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action forwarding-class</a> ( <i>keyword</i>   <i>reference</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>fc0 System default forwarding-class name for the FC with index 0</li> <li>fc1 System default forwarding-class name for the FC with index 1</li> <li>fc2 System default forwarding-class name for the FC with index 2</li> <li>fc3 System default forwarding-class name for the FC with index 3</li> <li>fc4 System default forwarding-class name for the FC with index 4</li> <li>fc5 System default forwarding-class name for the FC with index 5</li> <li>fc6 System default forwarding-class name for the FC with index 6</li> <li>fc7 System default forwarding-class name for the FC with index 7</li> </ul>

- fc8  
System default forwarding-class name for the FC with index 8
- fc9  
System default forwarding-class name for the FC with index 9
- fc10  
System default forwarding-class name for the FC with index 10
- fc11  
System default forwarding-class name for the FC with index 11
- fc12  
System default forwarding-class name for the FC with index 12
- fc13  
System default forwarding-class name for the FC with index 13
- fc14  
System default forwarding-class name for the FC with index 14
- fc15  
System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## rewrite

<b>Description</b>	Rewrite actions associated with packets that match the classifier entry. Where a packet matches these criteria, the specified rewrite actions should be performed.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action rewrite</a>
<b>Tree</b>	<a href="#">rewrite</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250

## set-dscp *number*

<b>Description</b>	Sets the 6-bit DSCP (differentiated services code point) value in the IP packet header.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action rewrite set-dscp</a> <i>number</i>

<b>Tree</b>	<a href="#">set-dscp</a>
<b>Range</b>	0 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250

## match

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## destination-ip

<b>Description</b>	Packet matching criteria based on destination IPv4 address
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## address *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match destination-ip address string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**mask string**

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match destination-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**prefix string**

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match destination-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**destination-port**

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
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<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le Less than or equal.</li> <li>ge Greater than or equal.</li> <li>eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp</li> </ul>

---

ASF Remote Management and Control Protocol & IPMI Remote Management Protocol

- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications

- 
- courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control

- `ftps-data`  
FTPS (FTP over SSL/TLS) data
- `godi`  
Group Domain Of Interpretation (GDOI) protocol
- `gopher`  
Gopher protocol
- `gtp-c`  
GTP control messages (GTP-C)
- `gtp-prime`  
GTP prime CDR logging protocol
- `gtp-u`  
GTP user data messages (GTP-U)
- `ha-cluster`  
Linux-HA high-availability heartbeat
- `hostname`  
NIC hostname server
- `hp-alarm-mgr`  
HP data alarm manager
- `http`  
Hypertext Transfer Protocol
- `http-alt`  
FileMaker Web Sharing (HTTP Alternate)
- `http-mgmt`  
`http-mgmt`
- `http-rpc`  
Remote procedure call over Hypertext Transfer Protocol
- `https`  
Hypertext Transfer Protocol over TLS/SSL
- `ieee-mms-ssl`  
IEEE Media Management System over SSL
- `imap`  
Internet Message Access Protocol (IMAP)
- `imap3`  
Internet Message Access Protocol (IMAP), version 3
- `imaps`  
Internet Message Access Protocol over TLS/SSL

- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp

- Label Distribution Protocol
- Imp
- Link Management Protocol (LMP)
- login
- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd

## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr

- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip



- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match destination-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo</li> </ul>

- 
- BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-hs  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard

- 
- Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster

- 
- Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)

- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A

- 
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
  - micro-bfd  
BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
  - mpp  
Message posting protocol (MPP)
  - mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp  
NetWare Core Protocol
  - netrjs-1  
NETRJS protocol
  - netrjs-2  
NETRJS protocol
  - netrjs-3  
NETRJS protocol
  - netrjs-4  
NETRJS protocol



- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)

- 
- ptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap

- 
- rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)

- **systat**  
Active Users (systat service)
- **tacacs**  
TACACS Login Host protocol
- **talk**  
Talk
- **tcpmux**  
TCP Port Service Multiplexer (TCPMUX)
- **tcpnethasprv**  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- **tftp**  
Trivial File Transfer Protocol (TFTP)
- **time**  
Time Protocol
- **timed**  
Timeserver
- **ups**  
Uninterruptible power supply (UPS)
- **xdmcp**  
X Display Manager Control Protocol (XDMCP)
- **xns-ch**  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- **xns-mail**  
Xerox Network Systems (XNS) Mail
- **xns-time**  
Xerox Network Systems (XNS) Time Protocol
- **z3950**  
ANSI Z39.50

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**value** (*number* | *keyword*)**Description**

A destination port number

**Context**

[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number*  
[match destination-port value](#) (*number* | *keyword*)

---

<b>Tree</b>	<b>value</b>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"><li>• acap Application Configuration Access Protocol</li><li>• afp-tcp Apple Filing Protocol over TCP</li><li>• arns A Remote Network Server System</li><li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li><li>• ashare AppleShare IP Web Administration</li><li>• atalk-rm AppleTalk Routing Maintenance</li><li>• aurp AppleTalk Update-Based Routing Protocol</li><li>• auth Authentication Service</li><li>• bfd Bidirectional Forwarding Detection Single Hop</li><li>• bfd-echo BFD Echo</li><li>• bftp Background File Transfer Program</li><li>• bgmp Border Gateway Multicast Protocol</li><li>• bgp Border Gateway Protocol</li><li>• bootpc Bootstrap Protocol (BOOTP) Client and DHCP Client</li><li>• bootps Bootstrap Protocol (BOOTP) Server and DHCP Server</li><li>• ccso-ns CCSO Nameserver</li><li>• chargen</li></ul>

- 
- Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec

- Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https

- 
- Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password



- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor

- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)

- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol

- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server

- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol

	<ul style="list-style-type: none"> <li>timed Timeserver</li> <li>ups Uninterruptible power supply (UPS)</li> <li>xmcp X Display Manager Control Protocol (XDMCP)</li> <li>xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>CS0</li> <li>LE</li> <li>CS1</li> <li>AF11</li> <li>AF12</li> <li>AF13</li> <li>CS2</li> <li>AF21</li> <li>AF22</li> <li>AF23</li> </ul>

- CS3
- AF31
- AF32
- AF33
- CS4
- AF41
- AF42
- AF43
- CS5
- EF
- CS6
- CS7

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**first-fragment** *boolean***Description**

Match the first fragment of an IPv4 datagram

A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and the more-fragments bit is 1. It is not valid to configure this leaf without configuring a match value for the fragment leaf.

**Context**

[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number*  
[match first-fragment](#) *boolean*

**Tree**[first-fragment](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**fragment** *boolean***Description**

Match an IPv4 fragment

A packet matches the true condition if the IPv4 header indicates that the fragment-offset is zero and the more-fragments bit is 1 or if the IPv4 header indicates that the fragment-offset is greater than 0. A packet matches the false condition if it is unfragmented.

**Context**

[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number*  
[match fragment](#) *boolean*

<b>Tree</b>	<a href="#">fragment</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## icmp

<b>Description</b>	A packet matches this condition if its ICMP type and code matches one of the specified combinations  The rule should also have a condition that the IP protocol equals 1 (ICMP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match icmp</a>
<b>Tree</b>	<a href="#">icmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## code number

<b>Description</b>	Match if the ICMP code value is any value in the list  Requires ICMP type to be specified because codes are type dependent.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match icmp code number</a>
<b>Tree</b>	<a href="#">code</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## type (number | keyword)

<b>Description</b>	Match a single ICMP type value.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match icmp type (number   keyword)</a>
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>echo-reply ICMP Echo Reply</li> </ul>



- dest-unreachable  
ICMP Destination Unreachable
- source-quench  
ICMP Source Quench
- redirect  
ICMP Redirect
- echo  
ICMP Echo
- router-advertise  
ICMP Router Advertisement
- router-solicit  
ICMP Router Solicitation
- time-exceeded  
ICMP Time Exceeded
- param-problem  
ICMP Parameter Problem
- timestamp  
ICMP Timestamp
- timestamp-reply  
ICMP Timestamp Reply

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**protocol** (*number* | *keyword*)**Description**

An IPv4 packet matches this condition if its IP protocol type field matches the specified value

**Context**[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number* [match protocol](#) (*number* | *keyword*)**Tree**[protocol](#)**Range**

0 to 255

**Options**

- ipv6-hop  
IPv6 hop-by-hop option
- icmp  
Internet Control Message Protocol
- igmp

- 
- Internet Group Management Protocol
  - ggp  
Gateway-to-Gateway Protocol
  - ipv4  
IPv4 encapsulation
  - st  
Stream Protocol
  - tcp  
Transmission Control Protocol
  - egp  
Exterior Gateway Protocol
  - igp  
Interior Gateway Protocol
  - udp  
User Datagram Protocol
  - ipv6  
IPv6 encapsulation
  - idrp  
Inter-Domain Routing Protocol
  - rsvp  
Resource Reservation Protocol
  - gre  
Generic Routing Encapsulation
  - esp  
IPSec Encapsulating Security Payload
  - ah  
IPSec Authentication Header
  - icmp6  
IPSec Authentication Header
  - no-next-hdr  
No Next Header for IPv6
  - ipv6-dest-opts  
Destination Options for IPv6
  - eigrp  
Cisco EIGRP
  - ospf

- OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
  - vrrp  
Virtual Router Redundancy Protocol
  - l2tp  
Layer Two Tunneling Protocol
  - sctp  
Stream Control Transmission Protocol
  - mpls-in-ip  
MPLS Encapsulation inside IP
  - rohc  
Robust Header Compression

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**source-ip****Description**

Packet matching criteria based on source IPv4 address

**Context**[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number* [match source-ip](#)**Tree**[source-ip](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**address string****Description**

Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.

**Context**[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number* [match source-ip address](#) *string***Tree**[address](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**mask string**

<b>Description</b>	Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match source-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**prefix string**

<b>Description</b>	Match a packet if its source IP address is within the specified IPv4 prefix.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match source-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
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<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le Less than or equal.</li> <li>ge Greater than or equal.</li> <li>eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port range end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp</li> </ul>

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ASF Remote Management and Control Protocol & IPMI Remote Management Protocol

- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications

- 
- courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control

- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol
- gopher  
Gopher protocol
- gtp-c  
GTP control messages (GTP-C)
- gtp-prime  
GTP prime CDR logging protocol
- gtp-u  
GTP user data messages (GTP-U)
- ha-cluster  
Linux-HA high-availability heartbeat
- hostname  
NIC hostname server
- hp-alarm-mgr  
HP data alarm manager
- http  
Hypertext Transfer Protocol
- http-alt  
FileMaker Web Sharing (HTTP Alternate)
- http-mgmt  
http-mgmt
- http-rpc  
Remote procedure call over Hypertext Transfer Protocol
- https  
Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl  
IEEE Media Management System over SSL
- imap  
Internet Message Access Protocol (IMAP)
- imap3  
Internet Message Access Protocol (IMAP), version 3
- imaps  
Internet Message Access Protocol over TLS/SSL



- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp

- Label Distribution Protocol
- Imp
- Link Management Protocol (LMP)
- login
- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd

## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr

- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo</li> </ul>

- 
- BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard



- 
- Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster

- 
- Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)

- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A

- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol

- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)

- ptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap

- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)

- **systat**  
Active Users (systat service)
- **tacacs**  
TACACS Login Host protocol
- **talk**  
Talk
- **tcpmux**  
TCP Port Service Multiplexer (TCPMUX)
- **tcpnethasprv**  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- **tftp**  
Trivial File Transfer Protocol (TFTP)
- **time**  
Time Protocol
- **timed**  
Timeserver
- **ups**  
Uninterruptible power supply (UPS)
- **xmcp**  
X Display Manager Control Protocol (XDMCP)
- **xns-ch**  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- **xns-mail**  
Xerox Network Systems (XNS) Mail
- **xns-time**  
Xerox Network Systems (XNS) Time Protocol
- **z3950**  
ANSI Z39.50

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**value** (*number* | *keyword*)**Description**

A source port number

**Context**

[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id](#) *number*  
[match source-port value](#) (*number* | *keyword*)



---

<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"><li>• acap Application Configuration Access Protocol</li><li>• afp-tcp Apple Filing Protocol over TCP</li><li>• arns A Remote Network Server System</li><li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li><li>• ashare AppleShare IP Web Administration</li><li>• atalk-rm AppleTalk Routing Maintenance</li><li>• aurp AppleTalk Update-Based Routing Protocol</li><li>• auth Authentication Service</li><li>• bfd Bidirectional Forwarding Detection Single Hop</li><li>• bfd-echo BFD Echo</li><li>• bftp Background File Transfer Program</li><li>• bgmp Border Gateway Multicast Protocol</li><li>• bgp Border Gateway Protocol</li><li>• bootpc Bootstrap Protocol (BOOTP) Client and DHCP Client</li><li>• bootps Bootstrap Protocol (BOOTP) Server and DHCP Server</li><li>• ccso-ns CCSO Nameserver</li><li>• chargen</li></ul>

- 
- Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec

- 
- Remote Process Execution (Rexec)
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Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
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FTPS (FTP over SSL/TLS) control
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Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
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  - gtp-u  
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HP data alarm manager
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http-mgmt
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Remote procedure call over Hypertext Transfer Protocol
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  - imap3  
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  - imaps  
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  - ipp  
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  - ipsec  
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  - ipx  
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  - iris-beep  
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BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor

- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
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Multicast Source Discovery Protocol
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MS Exchange Routing
- msp  
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NETRJS protocol
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NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
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- netnews  
Netnews
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netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)

- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
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PIM Auto-RP
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Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
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Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol

- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
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Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server



- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol

- timed  
Timeserver
- ups  
Uninterruptible power supply (UPS)
- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**tcp-flags** *string***Description**

A logical expression using the &amp;, | and ! logical operators and the TCP flag names: rst, syn and ack.

**Context**[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id number](#) [match tcp-flags](#) *string***Tree**[tcp-flags](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**tcam-entries****Description**

Information about the TCAM entries used to implement the ACL entry

**Context**[qos classifiers multifield ipv4-policy name](#) *string* [entry sequence-id number](#) [tcam-entries](#)**Tree**[tcam-entries](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**forwarding-complex** *complex-identifier string*

<b>Description</b>	List of forwarding complexes in the system
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string</a>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**complex-identifier** *string*

<b>Description</b>	A forwarding complex in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**input-total** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to ingress traffic.  For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then input-total=2. If the entry is not applied to ingress traffic on any subinterfaces of this complex then input-total=0.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string input-total number</a>
<b>Tree</b>	<a href="#">input-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**output-total** *number*

<b>Description</b>	The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to egress traffic.
--------------------	---

For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then output-total=10. If the entry is not applied to egress traffic on any subinterfaces of this complex then output-total=0.

<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string output-total number</a>
<b>Tree</b>	<a href="#">output-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### single-instance *number*

<b>Description</b>	The number of TCAM entries required to implement this entry if it is applied to only one subinterface and one traffic direction specific to this slot.  This is non-zero even if the filter is not applied to any subinterfaces of this complex. It captures the effect of TCAM entry expansion to deal with L4 port or VLAN ranges, for example.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string single-instance number</a>
<b>Tree</b>	<a href="#">single-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### ipv6-policy *name string*

<b>Description</b>	List of IPv6 classifier policies
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string</a>
<b>Tree</b>	<a href="#">ipv6-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### name *string*

<b>Description</b>	Name of the IPv6 classifier policy.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string</a>

<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### entry *sequence-id number*

<b>Description</b>	List of classifier rules.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### sequence-id *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### action

<b>Description</b>	Container for the actions to be applied to packets matching the classifier entry.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i> <a href="#">action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### drop-probability *keyword*

<b>Description</b>	Assign matching packets to the specified drop probability level
--------------------	---

The implicit default, if not specified, is low drop-probability.

<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### forwarding-class (*keyword* | *reference*)

<b>Description</b>	The forwarding class to which the DSCP value is mapped
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">action forwarding-class</a> ( <i>keyword</i>   <i>reference</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> <li>• fc5 System default forwarding-class name for the FC with index 5</li> <li>• fc6 System default forwarding-class name for the FC with index 6</li> <li>• fc7</li> </ul>

- System default forwarding-class name for the FC with index 7
- fc8
  - System default forwarding-class name for the FC with index 8
- fc9
  - System default forwarding-class name for the FC with index 9
- fc10
  - System default forwarding-class name for the FC with index 10
- fc11
  - System default forwarding-class name for the FC with index 11
- fc12
  - System default forwarding-class name for the FC with index 12
- fc13
  - System default forwarding-class name for the FC with index 13
- fc14
  - System default forwarding-class name for the FC with index 14
- fc15
  - System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## rewrite

<b>Description</b>	Rewrite actions associated with packets that match the classifier entry. Where a packet matches these criteria, the specified rewrite actions should be performed.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number action rewrite</a>
<b>Tree</b>	<a href="#">rewrite</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250

## set-dscp *number*

<b>Description</b>	Sets the 6-bit DSCP (differentiated services code point) value in the IP packet header.
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<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">action rewrite set-dscp</a> <i>number</i>
<b>Tree</b>	<a href="#">set-dscp</a>
<b>Range</b>	0 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250

## match

<b>Description</b>	Container for the conditions that determine whether a packet matches this entry
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## destination-ip

<b>Description</b>	Packet matching criteria based on destination IPv6 address
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match destination-ip</a>
<b>Tree</b>	<a href="#">destination-ip</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## address *string*

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of the mask equals this IP address.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">match destination-ip address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6



**mask string**

<b>Description</b>	Match a packet if its destination IP address logically anded with the inverse of this mask equals the configured IP address.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number match destination-ip mask string</a>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**prefix string**

<b>Description</b>	Match a packet if its destination IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number match destination-ip prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**destination-port**

<b>Description</b>	A packet matches this condition if its destination TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number match destination-port</a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**operator keyword**

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
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<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le Less than or equal.</li> <li>ge Greater than or equal.</li> <li>eq Equal to.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## range

<b>Description</b>	Container used to specify a contiguous range of TCP/UDP port numbers
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range</a>
<b>Tree</b>	<a href="#">range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## end (*number* | *keyword*)

<b>Description</b>	The ending port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match destination-port range end</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">end</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp</li> </ul>

---

ASF Remote Management and Control Protocol & IPMI Remote Management Protocol

- ashare  
AppleShare IP Web Administration
- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications

- 
- courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control

- `ftps-data`  
FTPS (FTP over SSL/TLS) data
- `godi`  
Group Domain Of Interpretation (GDOI) protocol
- `gopher`  
Gopher protocol
- `gtp-c`  
GTP control messages (GTP-C)
- `gtp-prime`  
GTP prime CDR logging protocol
- `gtp-u`  
GTP user data messages (GTP-U)
- `ha-cluster`  
Linux-HA high-availability heartbeat
- `hostname`  
NIC hostname server
- `hp-alarm-mgr`  
HP data alarm manager
- `http`  
Hypertext Transfer Protocol
- `http-alt`  
FileMaker Web Sharing (HTTP Alternate)
- `http-mgmt`  
`http-mgmt`
- `http-rpc`  
Remote procedure call over Hypertext Transfer Protocol
- `https`  
Hypertext Transfer Protocol over TLS/SSL
- `ieee-mms-ssl`  
IEEE Media Management System over SSL
- `imap`  
Internet Message Access Protocol (IMAP)
- `imap3`  
Internet Message Access Protocol (IMAP), version 3
- `imaps`  
Internet Message Access Protocol over TLS/SSL

- ipp  
Internet Printing Protocol
- ipsec  
Internet Protocol Security (IPSec)
- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp

- Label Distribution Protocol
- Imp
- Link Management Protocol (LMP)
- login
- rlogin (TCP) or Who (UDP)
- lpd
- Line Printer Daemon
- lsp-ping
- MPLS LSP-echo
- mac-server-adm
- Mac OS X Server administration
- matip-a
- Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b
- Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd
- BFD session over each LAG member link
- microsoft-ds
- Microsoft Directory Services
- mobile-ip
- Mobile IP Agent
- monitor
- Monitor
- mpp
- Message posting protocol (MPP)
- mssql-m
- Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
- Microsoft SQL Server database management system (MSSQL) server
- msdp
- Multicast Source Discovery Protocol
- ms-exchange
- MS Exchange Routing
- msp
- Message Send Protocol
- multihop-bfd

## Bidirectional Forwarding Detection Multi-Hop

- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr



- 
- Optimized Link State Routing (OLSR)
  - openvpn  
OpenVPN
  - pim-auto-rp  
PIM Auto-RP
  - pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
  - pop2  
Post Office Protocol, version 2 (POP2)
  - pop3  
Post Office Protocol, version 3 (POP3)
  - pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
  - pptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip

- 
- Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap
  - rsync  
rsync file synchronization protocol
  - rtelnet  
Remote User Telnet Service (RTelnet)
  - rtsp  
Real Time Streaming Protocol (RTSP)
  - sgmp  
Simple Gateway Monitoring Protocol (SGMP)
  - silc  
Secure Internet Live Conferencing (SILC)
  - smux  
SNMP multiplexing protocol (SMUX)
  - sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
  - snmp  
Simple Network Management Protocol (SNMP)
  - snmp-trap  
SNMP Traps
  - snpp  
Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs

- 
- Structured Query Language (SQL) Services
    - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethasprv  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)

	<ul style="list-style-type: none"> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number match destination-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo</li> </ul>

- 
- BFD Echo
  - bftp  
Background File Transfer Program
  - bgmp  
Border Gateway Multicast Protocol
  - bgp  
Border Gateway Protocol
  - bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
  - bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-hs  
CCSO Nameserver
  - chargen  
Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard

- 
- Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec  
Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster

- 
- Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)

- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A



- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol

- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)

- 
- ptp  
Point-to-Point Tunneling Protocol (PPTP)
  - ptp-event  
Precision Time Protocol (PTP) event messages
  - ptp-general  
Precision Time Protocol (PTP) general messages
  - print-srv  
Network PostScript print server
  - qmtp  
Quick Mail Transfer Protocol
  - qotd  
Quote of the Day (QOTD)
  - radius  
RADIUS authentication protocol
  - radius-acct  
RADIUS accounting protocol
  - remote-mail  
Remote Mail Checking Protocol
  - remotefs  
Remotefs, RFS Server
  - remotecmd  
SupportSoft Nexus Remote Command
  - rip  
Routing Information Protocol
  - rje  
Remote Job Entry
  - rlp  
Resource Location Protocol
  - rlzdb  
RLZ DBase
  - rmc  
IBM RMC (Remote monitoring and Control) protocol
  - rmonitor  
rmonitor, Remote Monitor
  - rpc2portmap  
Rpc2portmap

- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)

- **systat**  
Active Users (systat service)
- **tacacs**  
TACACS Login Host protocol
- **talk**  
Talk
- **tcpmux**  
TCP Port Service Multiplexer (TCPMUX)
- **tcpnethasprv**  
tcpnethasprv, Aladdin Knowledge Systems Hasp services
- **tftp**  
Trivial File Transfer Protocol (TFTP)
- **time**  
Time Protocol
- **timed**  
Timeserver
- **ups**  
Uninterruptible power supply (UPS)
- **xdmcp**  
X Display Manager Control Protocol (XDMCP)
- **xns-ch**  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- **xns-mail**  
Xerox Network Systems (XNS) Mail
- **xns-time**  
Xerox Network Systems (XNS) Time Protocol
- **z3950**  
ANSI Z39.50

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**value** (*number* | *keyword*)**Description**

A destination port number

**Context**

[qos classifiers multifield ipv6-policy name](#) *string* [entry sequence-id](#) *number*  
[match destination-port value](#) (*number* | *keyword*)

---

<b>Tree</b>	<a href="#">value</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"><li>• acap Application Configuration Access Protocol</li><li>• afp-tcp Apple Filing Protocol over TCP</li><li>• arns A Remote Network Server System</li><li>• asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li><li>• ashare AppleShare IP Web Administration</li><li>• atalk-rm AppleTalk Routing Maintenance</li><li>• aurp AppleTalk Update-Based Routing Protocol</li><li>• auth Authentication Service</li><li>• bfd Bidirectional Forwarding Detection Single Hop</li><li>• bfd-echo BFD Echo</li><li>• bftp Background File Transfer Program</li><li>• bgmp Border Gateway Multicast Protocol</li><li>• bgp Border Gateway Protocol</li><li>• bootpc Bootstrap Protocol (BOOTP) Client and DHCP Client</li><li>• bootps Bootstrap Protocol (BOOTP) Server and DHCP Server</li><li>• ccso-ns CCSO Nameserver</li><li>• chargen</li></ul>

- 
- Character Generator Protocol (CHARGEN)
  - cisco-tdp  
Cisco Tag Distribution Protocol
  - citadel  
Citadel
  - clearcase  
ClearCase albd
  - commerce  
Commerce Applications
  - courier  
Remote Procedure Call
  - daytime  
Daytime Protocol
  - dhcpv6-client  
DHCPv6 Client
  - dhcpv6-server  
DHCPv6 Server
  - dhcp-failover  
DHCP Failover Protocol
  - dicom  
Digital Imaging and Communications in Medicine
  - discard  
Discard Protocol. Also Wake-on-LAN.
  - dnsix  
DNSIX security protocol auditing
  - domain  
Domain Name System
  - dsp  
Display Support Protocol
  - echo  
Echo Protocol
  - epp  
Extensible Provisioning Protocol
  - esro  
Efficient Short Remote Operations (ESRO)
  - exec

- 
- Remote Process Execution (Rexec)
  - finger  
Finger protocol
  - ftp  
File Transfer Protocol control
  - ftp-data  
File Transfer Protocol data
  - ftps  
FTPS (FTP over SSL/TLS) control
  - ftps-data  
FTPS (FTP over SSL/TLS) data
  - godi  
Group Domain Of Interpretation (GDOI) protocol
  - gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https



- 
- Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)
  - ipx  
Internetwork Packet Exchange (IPX)
  - irc  
Internet Relay Chat (IRC)
  - iris-beep  
IRIS (Internet Registry Information Service) over BEEP
  - isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI
  - iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
  - kerberos  
Kerberos authentication system
  - kerberos-adm  
Kerberos administration
  - klogin  
Kerberos login
  - kpasswd  
Kerberos Change/Set password

- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol (L2TP)
- ldap  
Lightweight Directory Access Protocol (LDAP)
- ldaps  
Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login  
rlogin (TCP) or Who (UDP)
- lpd  
Line Printer Daemon
- lsp-ping  
MPLS LSP-echo
- mac-server-adm  
Mac OS X Server administration
- matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- matip-b  
Mapping of Airline Traffic over Internet Protocol (MATIP) type B
- micro-bfd  
BFD session over each LAG member link
- microsoft-ds  
Microsoft Directory Services
- mobile-ip  
Mobile IP Agent
- monitor  
Monitor
- mpp  
Message posting protocol (MPP)
- mssql-m  
Microsoft SQL Server database management system (MSSQL) monitor

- mssql-s  
Microsoft SQL Server database management system (MSSQL) server
- msdp  
Multicast Source Discovery Protocol
- ms-exchange  
MS Exchange Routing
- msp  
Message Send Protocol
- multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
- nas  
Netnews Administration System (NAS)
- ncp  
NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)

- nntp  
Network News Transfer Protocol (NNTP)
- nntpS  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp  
PIM Auto-RP
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PKIX Time Stamp Protocol (TSP)
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Post Office Protocol, version 2 (POP2)
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Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
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Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
- qotd  
Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol

- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp  
Resource Location Protocol
- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmp  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server

- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh  
Secure Shell Protocol
- submission  
Email message submission (SMTP)
- sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
- svcloc  
Service Location Protocol (SLP)
- syslog  
Syslog (UDP) and Remote Shell (TCP)
- systat  
Active Users (systat service)
- tacacs  
TACACS Login Host protocol
- talk  
Talk
- tcpmux  
TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
- tftp  
Trivial File Transfer Protocol (TFTP)
- time  
Time Protocol

	<ul style="list-style-type: none"> <li>timed Timeserver</li> <li>ups Uninterruptible power supply (UPS)</li> <li>xmcp X Display Manager Control Protocol (XDMCP)</li> <li>xns-ch Xerox Network Systems (XNS) Clearinghouse (Name Server)</li> <li>xns-mail Xerox Network Systems (XNS) Mail</li> <li>xns-time Xerox Network Systems (XNS) Time Protocol</li> <li>z3950 ANSI Z39.50</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **dscp-set** (*number* | *keyword*)

<b>Description</b>	A list of DSCP values to be matched for incoming packets. An OR match should be performed, such that a packet must match one of the values defined in this list. If the field is left empty then any DSCP value matches.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match dscp-set</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp-set</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>CS0</li> <li>LE</li> <li>CS1</li> <li>AF11</li> <li>AF12</li> <li>AF13</li> <li>CS2</li> <li>AF21</li> <li>AF22</li> <li>AF23</li> </ul>

- CS3
- AF31
- AF32
- AF33
- CS4
- AF41
- AF42
- AF43
- CS5
- EF
- CS6
- CS7

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2, 7250 IXR-6

**icmp6****Description**

A packet matches this condition if its ICMPv6 type and code matches one of the specified combinations

The rule should also have a condition that the next-header value equals 58 (ICMPv6) in order for this to be interpreted correctly.

**Context**

[qos classifiers multifield ipv6-policy name string entry sequence-id number match icmp6](#)

**Tree**

[icmp6](#)

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**code number****Description**

Match if the ICMPv6 code value is any value in the list

Requires ICMPv6 type to be specified because codes are type dependent.

**Context**

[qos classifiers multifield ipv6-policy name string entry sequence-id number match icmp6 code number](#)

**Tree**

[code](#)

**Configurable**

True



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **type** (*number* | *keyword*)

<b>Description</b>	Match a single ICMPv6 type value
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match icmp6 type</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">type</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>dest-unreachable</code> ICMPv6 Destination Unreachable</li> <li>• <code>packet-too-big</code> ICMPv6 Packet Too Big</li> <li>• <code>time-exceeded</code> ICMPv6 Time Exceeded</li> <li>• <code>param-problem</code> Parameter Problem</li> <li>• <code>echo-request</code> ICMPv6 Echo Request</li> <li>• <code>echo-reply</code> ICMPv6 Echo Reply</li> <li>• <code>mld-query</code> Multicast Listener Discovery Query</li> <li>• <code>mld-report</code> Multicast Listener Discovery Report</li> <li>• <code>mld-done</code> Multicast Listener Discovery Done</li> <li>• <code>router-solicit</code> ICMPv6 Router Solicitation</li> <li>• <code>router-advertise</code> ICMPv6 Router Advertisement</li> <li>• <code>neighbor-solicit</code> ICMPv6 Neighbor Solicitation</li> <li>• <code>neighbor-advertise</code> ICMPv6 Neighbor Advertisement</li> <li>• <code>redirect</code></li> </ul>

	<ul style="list-style-type: none"> <li>ICMPv6 Redirect</li> <li>router-renumber</li> <li>ICMPv6 Router Renumbering</li> <li>node-info-query</li> <li>ICMPv6 Node Information Query</li> <li>node-info-response</li> <li>ICMPv6 Node Information Response</li> <li>mld-v2</li> <li>Multicast Listener Discovery Version 2</li> <li>mcast-rtr-adv</li> <li>Multicast Router Advertisement</li> <li>mcast-rtr-solicit</li> <li>Multicast Router Solicitation</li> <li>mcast-rtr-term</li> <li>Multicast Router Termination</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **next-header** (*number* | *keyword*)

<b>Description</b>	An IPv6 packet matches this condition if its first next-header field (in the IPv6 fixed header) contains the specified value
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id number match next-header</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">next-header</a>
<b>Range</b>	0 to 255
<b>Options</b>	<ul style="list-style-type: none"> <li>ipv6-hop IPv6 hop-by-hop option</li> <li>icmp Internet Control Message Protocol</li> <li>igmp Internet Group Management Protocol</li> <li>ggp Gateway-to-Gateway Protocol</li> <li>ipv4 IPv4 encapsulation</li> </ul>

- st  
Stream Protocol
- tcp  
Transmission Control Protocol
- egp  
Exterior Gateway Protocol
- igp  
Interior Gateway Protocol
- udp  
User Datagram Protocol
- ipv6  
IPv6 encapsulation
- idrp  
Inter-Domain Routing Protocol
- rsvp  
Resource Reservation Protocol
- gre  
Generic Routing Encapsulation
- esp  
IPSec Encapsulating Security Payload
- ah  
IPSec Authentication Header
- icmp6  
IPSec Authentication Header
- no-next-hdr  
No Next Header for IPv6
- ipv6-dest-opts  
Destination Options for IPv6
- eigrp  
Cisco EIGRP
- ospf  
OSPFv2 and OSPFv3
- pim  
Protocol Independent Multicast
- vrrp  
Virtual Router Redundancy Protocol

- l2tp  
Layer Two Tunneling Protocol
- sctp  
Stream Control Transmission Protocol
- mpls-in-ip  
MPLS Encapsulation inside IP
- rohc  
Robust Header Compression

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**source-ip****Description**

Packet matching criteria based on source IPv6 address

**Context**[qos classifiers multifield ipv6-policy name](#) *string* [entry sequence-id](#) *number* [match source-ip](#)**Tree**[source-ip](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**address string****Description**

Match a packet if its source IP address logically anded with the inverse of the mask equals this IP address.

**Context**[qos classifiers multifield ipv6-policy name](#) *string* [entry sequence-id](#) *number* [match source-ip address](#) *string***Tree**[address](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**mask string****Description**

Match a packet if its source IP address logically anded with the inverse of this mask equals the configured IP address.

<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-ip mask</a> <i>string</i>
<b>Tree</b>	<a href="#">mask</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**prefix** *string*

<b>Description</b>	Match a packet if its source IP address is within the specified IPv6 prefix.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-ip prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**source-port**

<b>Description</b>	A packet matches this condition if its source TCP or UDP port number matches the value or range that is specified  The rule should also have a condition that the IP protocol equals 6 (TCP) or 17 (UDP) in order for this to be interpreted correctly.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port</a>
<b>Tree</b>	<a href="#">source-port</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

**operator** *keyword*

<b>Description</b>	Comparison operator  eq = equal ge = greater than or equal to le = less than or equal to
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port operator</a> <i>keyword</i>
<b>Tree</b>	<a href="#">operator</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>le</li> </ul>

Less than or equal.

- ge

Greater than or equal.

- eq

Equal to.

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## range

**Description**

Container used to specify a contiguous range of TCP/UDP port numbers

**Context**

[qos classifiers multifield ipv6-policy name](#) *string* [entry sequence-id](#) *number* [match source-port range](#)

**Tree**

[range](#)

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

## end (*number* | *keyword*)

**Description**

The ending port number to include in the range

**Context**

[qos classifiers multifield ipv6-policy name](#) *string* [entry sequence-id](#) *number* [match source-port range end](#) (*number* | *keyword*)

**Tree**

[end](#)

**Range**

0 to 65535

**Options**

- acap  
Application Configuration Access Protocol
- afp-tcp  
Apple Filing Protocol over TCP
- arns  
A Remote Network Server System
- asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
- ashare  
AppleShare IP Web Administration

- atalk-rm  
AppleTalk Routing Maintenance
- aurp  
AppleTalk Update-Based Routing Protocol
- auth  
Authentication Service
- bfd  
Bidirectional Forwarding Detection Single Hop
- bfd-echo  
BFD Echo
- bftp  
Background File Transfer Program
- bgmp  
Border Gateway Multicast Protocol
- bgp  
Border Gateway Protocol
- bootpc  
Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps  
Bootstrap Protocol (BOOTP) Server and DHCP Server
- ccso-ns  
CCSO Nameserver
- chargen  
Character Generator Protocol (CHARGEN)
- cisco-tdp  
Cisco Tag Distribution Protocol
- citadel  
Citadel
- clearcase  
ClearCase albd
- commerce  
Commerce Applications
- courier  
Remote Procedure Call
- daytime  
Daytime Protocol

- dhcpv6-client  
DHCPv6 Client
- dhcpv6-server  
DHCPv6 Server
- dhcp-failover  
DHCP Failover Protocol
- dicom  
Digital Imaging and Communications in Medicine
- discard  
Discard Protocol. Also Wake-on-LAN.
- dnsix  
DNSIX security protocol auditing
- domain  
Domain Name System
- dsp  
Display Support Protocol
- echo  
Echo Protocol
- epp  
Extensible Provisioning Protocol
- esro  
Efficient Short Remote Operations (ESRO)
- exec  
Remote Process Execution (Rexec)
- finger  
Finger protocol
- ftp  
File Transfer Protocol control
- ftp-data  
File Transfer Protocol data
- ftps  
FTPS (FTP over SSL/TLS) control
- ftps-data  
FTPS (FTP over SSL/TLS) data
- godi  
Group Domain Of Interpretation (GDOI) protocol



- 
- gopher  
Gopher protocol
  - gtp-c  
GTP control messages (GTP-C)
  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
NIC hostname server
  - hp-alarm-mgr  
HP data alarm manager
  - http  
Hypertext Transfer Protocol
  - http-alt  
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  - http-mgmt  
http-mgmt
  - http-rpc  
Remote procedure call over Hypertext Transfer Protocol
  - https  
Hypertext Transfer Protocol over TLS/SSL
  - ieee-mms-ssl  
IEEE Media Management System over SSL
  - imap  
Internet Message Access Protocol (IMAP)
  - imap3  
Internet Message Access Protocol (IMAP), version 3
  - imaps  
Internet Message Access Protocol over TLS/SSL
  - ipp  
Internet Printing Protocol
  - ipsec  
Internet Protocol Security (IPSec)

- ipx  
Internetwork Packet Exchange (IPX)
- irc  
Internet Relay Chat (IRC)
- iris-beep  
IRIS (Internet Registry Information Service) over BEEP
- isakmp  
Internet Security Association and Key Management Protocol (ISAKMP) /  
Internet Key Exchange (IKE)
- isakmp-nat  
IPSec NAT Traversal
- iscsi  
iSCSI
- iso-tsap  
ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos  
Kerberos authentication system
- kerberos-adm  
Kerberos administration
- klogin  
Kerberos login
- kpasswd  
Kerberos Change/Set password
- kshell  
Kerberos Remote shell
- l2tp  
Layer 2 Forwarding Protocol (L2F) and Layer 2 Tunneling Protocol  
(L2TP)
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Lightweight Directory Access Protocol (LDAP)
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Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
- ldp  
Label Distribution Protocol
- lmp  
Link Management Protocol (LMP)
- login

- 
- rlogin (TCP) or Who (UDP)
  - lpd  
Line Printer Daemon
  - lsp-ping  
MPLS LSP-echo
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Mac OS X Server administration
  - matip-a  
Mapping of Airline Traffic over Internet Protocol (MATIP) type A
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BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
  - monitor  
Monitor
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Microsoft SQL Server database management system (MSSQL) monitor
  - mssql-s  
Microsoft SQL Server database management system (MSSQL) server
  - msdp  
Multicast Source Discovery Protocol
  - ms-exchange  
MS Exchange Routing
  - msp  
Message Send Protocol
  - multihop-bfd  
Bidirectional Forwarding Detection Multi-Hop
  - nas  
Netnews Administration System (NAS)
  - ncp

- NetWare Core Protocol
- netrjs-1  
NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service
- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
- nfs  
Network File System (NFS)
- nntp  
Network News Transfer Protocol (NNTP)
- nntps  
Network News Transfer Protocol over TLS/SSL (NNTPS)
- ntp  
Network Time Protocol (NTP)
- odmr  
On-Demand Mail Relay (ODMR)
- olsr  
Optimized Link State Routing (OLSR)
- openvpn  
OpenVPN
- pim-auto-rp

- PIM Auto-RP
- pkix-timestamp  
PKIX Time Stamp Protocol (TSP)
- pop2  
Post Office Protocol, version 2 (POP2)
- pop3  
Post Office Protocol, version 3 (POP3)
- pop3s  
Post Office Protocol 3 over TLS/SSL (POP3S)
- pptp  
Point-to-Point Tunneling Protocol (PPTP)
- ptp-event  
Precision Time Protocol (PTP) event messages
- ptp-general  
Precision Time Protocol (PTP) general messages
- print-srv  
Network PostScript print server
- qmtp  
Quick Mail Transfer Protocol
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Quote of the Day (QOTD)
- radius  
RADIUS authentication protocol
- radius-acct  
RADIUS accounting protocol
- remote-mail  
Remote Mail Checking Protocol
- remotefs  
Remotefs, RFS Server
- remotecmd  
SupportSoft Nexus Remote Command
- rip  
Routing Information Protocol
- rje  
Remote Job Entry
- rlp

## Resource Location Protocol

- rlzdb  
RLZ DBase
- rmc  
IBM RMC (Remote monitoring and Control) protocol
- rmonitor  
rmonitor, Remote Monitor
- rpc2portmap  
Rpc2portmap
- rsync  
rsync file synchronization protocol
- rtelnet  
Remote User Telnet Service (RTelnet)
- rtsp  
Real Time Streaming Protocol (RTSP)
- sgmplib  
Simple Gateway Monitoring Protocol (SGMP)
- silc  
Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp  
Simple Network Paging Protocol (SNPP)
- smtp  
Simple Mail Transfer Protocol (SMTP)
- sql-svcs  
Structured Query Language (SQL) Services
- sql  
Structured Query Language (SQL) Service
- ssh

- 
- Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)
  - xdmcp  
X Display Manager Control Protocol (XDMCP)
  - xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
  - xns-mail  
Xerox Network Systems (XNS) Mail
  - xns-time  
Xerox Network Systems (XNS) Time Protocol

	<ul style="list-style-type: none"> <li>z3950</li> </ul> ANSI Z39.50
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **start** (*number* | *keyword*)

<b>Description</b>	The starting port number to include in the range
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">match source-port range start</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">start</a>
<b>Range</b>	0 to 65535
<b>Options</b>	<ul style="list-style-type: none"> <li>acap Application Configuration Access Protocol</li> <li>afp-tcp Apple Filing Protocol over TCP</li> <li>arns A Remote Network Server System</li> <li>asf-rmcp ASF Remote Management and Control Protocol &amp; IPMI Remote Management Protocol</li> <li>ashare AppleShare IP Web Administration</li> <li>atalk-rm AppleTalk Routing Maintenance</li> <li>aurp AppleTalk Update-Based Routing Protocol</li> <li>auth Authentication Service</li> <li>bfd Bidirectional Forwarding Detection Single Hop</li> <li>bfd-echo BFD Echo</li> <li>bftp Background File Transfer Program</li> <li>bgmp</li> </ul>



- 
- Border Gateway Multicast Protocol
  - bgp
    - Border Gateway Protocol
  - bootpc
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  - bootps
    - Bootstrap Protocol (BOOTP) Server and DHCP Server
  - ccso-ns
    - CCSO Nameserver
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    - Character Generator Protocol (CHARGEN)
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  - citadel
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    - Commerce Applications
  - courier
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    - DHCP Failover Protocol
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  - dnsix
    - DNSIX security protocol auditing
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  - ftp-data  
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  - gopher  
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  - gtp-prime  
GTP prime CDR logging protocol
  - gtp-u  
GTP user data messages (GTP-U)
  - ha-cluster  
Linux-HA high-availability heartbeat
  - hostname  
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- HP data alarm manager
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Hypertext Transfer Protocol
  - http-alt  
FileMaker Web Sharing (HTTP Alternate)
  - http-mgmt  
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  - https  
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  - isakmp-nat  
IPSec NAT Traversal
  - iscsi  
iSCSI

- iso-tsap  
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Kerberos administration
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Kerberos login
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Kerberos Change/Set password
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BFD session over each LAG member link

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Netnews Administration System (NAS)
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NETRJS protocol
- netrjs-2  
NETRJS protocol
- netrjs-3  
NETRJS protocol
- netrjs-4  
NETRJS protocol
- netbios-data  
NetBIOS Datagram Service
- netbios-ns  
NetBIOS Name Service

- netbios-ss  
NetBIOS Session Service
- netnews  
Netnews
- netwall  
netwall, for Emergency Broadcasts
- new-rwho  
new-rwho, new-who
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- ptp-event  
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Remotefs, RFS Server
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Routing Information Protocol
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Resource Location Protocol
  - rlzdb  
RLZ DBase
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Syslog (UDP) and Remote Shell (TCP)
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- talk  
Talk
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tcpnethasprv, Aladdin Knowledge Systems Hasp services
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- time  
Time Protocol
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Timeserver
- ups  
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- z3950  
ANSI Z39.50

**Configurable**

True

**Platforms**

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**value** (*number* | *keyword*)**Description**

A source port number

**Context**[qos classifiers multifield ipv6-policy name string entry sequence-id number match source-port value](#) (*number* | *keyword*)**Tree**[value](#)**Range**

0 to 65535

**Options**

- acap  
Application Configuration Access Protocol

- 
- afp-tcp  
Apple Filing Protocol over TCP
  - arns  
A Remote Network Server System
  - asf-rmcp  
ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
  - ashare  
AppleShare IP Web Administration
  - atalk-rm  
AppleTalk Routing Maintenance
  - aurp  
AppleTalk Update-Based Routing Protocol
  - auth  
Authentication Service
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  - Idaps  
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  - Idp  
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BFD session over each LAG member link
  - microsoft-ds  
Microsoft Directory Services
  - mobile-ip  
Mobile IP Agent
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Monitor
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  - remote-mail  
Remote Mail Checking Protocol
  - remotefs



- Remotefs, RFS Server
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SupportSoft Nexus Remote Command
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RLZ DBase
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Secure Internet Live Conferencing (SILC)
- smux  
SNMP multiplexing protocol (SMUX)
- sna-gw  
IBM Systems Network Architecture (SNA) gateway access server
- snmp  
Simple Network Management Protocol (SNMP)
- snmp-trap  
SNMP Traps
- snpp

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- Simple Network Paging Protocol (SNPP)
  - smtp  
Simple Mail Transfer Protocol (SMTP)
  - sql-svcs  
Structured Query Language (SQL) Services
  - sql  
Structured Query Language (SQL) Service
  - ssh  
Secure Shell Protocol
  - submission  
Email message submission (SMTP)
  - sunrpc  
Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
  - svcloc  
Service Location Protocol (SLP)
  - syslog  
Syslog (UDP) and Remote Shell (TCP)
  - systat  
Active Users (systat service)
  - tacacs  
TACACS Login Host protocol
  - talk  
Talk
  - tcpmux  
TCP Port Service Multiplexer (TCPMUX)
  - tcpnethaspsrv  
tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
  - tftp  
Trivial File Transfer Protocol (TFTP)
  - time  
Time Protocol
  - timed  
Timeserver
  - ups  
Uninterruptible power supply (UPS)

- xdmcp  
X Display Manager Control Protocol (XDMCP)
- xns-ch  
Xerox Network Systems (XNS) Clearinghouse (Name Server)
- xns-mail  
Xerox Network Systems (XNS) Mail
- xns-time  
Xerox Network Systems (XNS) Time Protocol
- z3950  
ANSI Z39.50

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### tcp-flags *string*

<b>Description</b>	A logical expression using the &,   and ! logical operators and the TCP flag names: rst, syn and ack.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">match tcp-flags</a> <i>string</i>
<b>Tree</b>	<a href="#">tcp-flags</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### tcam-entries

<b>Description</b>	Information about the TCAM entries used to implement the ACL entry
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id number</a> <a href="#">tcam-entries</a>
<b>Tree</b>	<a href="#">tcam-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### forwarding-complex [complex-identifier](#) *string*

<b>Description</b>	List of forwarding complexes in the system
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<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string</a>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **complex-identifier string**

<b>Description</b>	A forwarding complex in the format (slot-number,complex-number).
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### **input-total number**

<b>Description</b>	<p>The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to ingress traffic.</p> <p>For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then input-total=2. If the entry is not applied to ingress traffic on any subinterfaces of this complex then input-total=0.</p>
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string entry sequence-id number tcam-entries forwarding-complex complex-identifier string input-total number</a>
<b>Tree</b>	<a href="#">input-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **output-total number**

<b>Description</b>	<p>The number of TCAM entries required to implement this entry on all subinterfaces of this complex where the filter is applied to egress traffic.</p> <p>For example, if a single-instance of the entry takes 2 TCAM entries and the filter is an output-only subinterface-specific filter and the filter is applied to 5 subinterfaces on output and to 5 subinterfaces on input then output-total=10. If the entry is not applied to egress traffic on any subinterfaces of this complex then output-total=0.</p>
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<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries forwarding-complex complex-identifier</a> <i>string</i> <a href="#">output-total</a> <i>number</i>
<b>Tree</b>	<a href="#">output-total</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### single-instance *number*

<b>Description</b>	The number of TCAM entries required to implement this entry if it is applied to only one subinterface and one traffic direction specific to this slot.  This is non-zero even if the filter is not applied to any subinterfaces of this complex. It captures the effect of TCAM entry expansion to deal with L4 port or VLAN ranges, for example.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">tcam-entries forwarding-complex complex-identifier</a> <i>string</i> <a href="#">single-instance</a> <i>number</i>
<b>Tree</b>	<a href="#">single-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D3, 7220 IXR-D2, 7250 IXR-6

### vxlan-default *reference*

<b>Description</b>	Reference to the name of a DSCP mapping policy that applies to terminating VXLAN packets.
<b>Context</b>	<a href="#">qos classifiers vxlan-default</a> <i>reference</i>
<b>Tree</b>	<a href="#">vxlan-default</a>
<b>Reference</b>	<a href="#">qos classifiers dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### explicit-congestion-notification

<b>Description</b>	Enable the explicit-congestion-notification context
<b>Context</b>	<a href="#">qos explicit-congestion-notification</a>
<b>Tree</b>	<a href="#">explicit-congestion-notification</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ecn-dscp-policy *reference*

<b>Description</b>	Reference to the DSCP rewrite policy to use when DSCP rewrite is required as a side effect of ECN remarking.  This is required configuration in order to globally enable ECN on J2 platforms.
<b>Context</b>	<a href="#">qos explicit-congestion-notification ecn-dscp-policy reference</a>
<b>Tree</b>	<a href="#">ecn-dscp-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules dscp-policy name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### forwarding-classes

<b>Description</b>	Enclosing container for list of user-defined forwarding class names
<b>Context</b>	<a href="#">qos forwarding-classes</a>
<b>Tree</b>	<a href="#">forwarding-classes</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### forwarding-class [name string](#)

<b>Description</b>	Enter the forwarding-class list instance
<b>Context</b>	<a href="#">qos forwarding-classes forwarding-class name string</a>
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### name *string*

<b>Description</b>	User-defined name of the forwarding class  The following forwarding-class names are the system-reserved default FC names on 7250 IXR systems: fc0, fc1, fc2, fc3, fc4, fc5, fc6, and fc7.
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<b>Context</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### forwarding-class-index *number*

<b>Description</b>	<p>Associates the forwarding class name with an index representing the forwarding-class-index. Forwarding classes with a higher forwarding-class-index are generally (subject to scheduler configuration) serviced more preferentially than forwarding classes with a lower forwarding-class-index.</p> <p>For the system-reserved default forwarding classes: fc0 -&gt; forwarding-class-index = 0 fc1 -&gt; forwarding-class-index = 1 fc2 -&gt; forwarding-class-index = 2 fc3 -&gt; forwarding-class-index = 3 fc4 -&gt; forwarding-class-index = 4 fc5 -&gt; forwarding-class-index = 5 fc6 -&gt; forwarding-class-index = 6 fc7 -&gt; forwarding-class-index = 7 fc8 -&gt; forwarding-class-index = 8 fc9 -&gt; forwarding-class-index = 9 fc10 -&gt; forwarding-class-index = 10 fc11 -&gt; forwarding-class-index = 11 fc12 -&gt; forwarding-class-index = 12 fc13 -&gt; forwarding-class-index = 13 fc14 -&gt; forwarding-class-index = 14 fc15 -&gt; forwarding-class-index = 15</p>
<b>Context</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i> <a href="#">forwarding-class-index</a> <i>number</i>
<b>Tree</b>	<a href="#">forwarding-class-index</a>
<b>Range</b>	0 to 15
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### output

<b>Description</b>	Enter the output context
<b>Context</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i> <a href="#">output</a>
<b>Tree</b>	<a href="#">output</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### multicast-queue *reference*

<b>Description</b>	Output queue for multicast packets within this forwarding class.
<b>Context</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i> <a href="#">output</a> <a href="#">multicast-queue</a> <i>reference</i>

<b>Tree</b>	<a href="#">multicast-queue</a>
<b>Reference</b>	<a href="#">qos queues queue name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### unicast-queue *reference*

<b>Description</b>	Output queue for unicast packets within this forwarding class For the system-reserved default forwarding classes: fc0 -> unicast-queue = unicast-queue0 fc1 -> unicast-queue = unicast-queue1 fc2 -> unicast-queue = unicast-queue2 fc3 -> unicast-queue = unicast-queue3 fc4 -> unicast-queue = unicast-queue4 fc5 -> unicast-queue = unicast-queue5 fc6 -> unicast-queue = unicast-queue6 fc7 -> unicast-queue = unicast-queue7
<b>Context</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i> <a href="#">output unicast-queue reference</a>
<b>Tree</b>	<a href="#">unicast-queue</a>
<b>Reference</b>	<a href="#">qos queues queue name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### policer-templates

<b>Description</b>	Enter the policer-templates context
<b>Context</b>	<a href="#">qos policer-templates</a>
<b>Tree</b>	<a href="#">policer-templates</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### policer-template *name string*

<b>Description</b>	List of policer templates.
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i>
<b>Tree</b>	<a href="#">policer-template</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2



**name** *string*

<b>Description</b>	The name assigned to the policer template.
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**policer** [sequence-id](#) *number*

<b>Description</b>	The list of policer instances belonging to the template definition.
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i> <a href="#">policer sequence-id</a> <i>number</i>
<b>Tree</b>	<a href="#">policer</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	32

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different policers in a template; policers with lower sequence-id numbers are evaluated before policers with higher sequence-id numbers
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i> <a href="#">policer sequence-id</a> <i>number</i>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**committed-burst-size** *number*

<b>Description</b>	Maximum CIR bucket depth in bytes On 7220-D2/D3 the lower limit is 512 Bytes and higher limit is 268 MB
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i> <a href="#">policer sequence-id</a> <i>number</i> <a href="#">committed-burst-size</a> <i>number</i>

<b>Tree</b>	<a href="#">committed-burst-size</a>
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **committed-rate-kbps** *number*

<b>Description</b>	The committed information rate (CIR) of the policer, defined in kilobits (1024 bits) per second On 7220-D2/D3 the minimum rate is 8 Kbps
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i> <a href="#">policer sequence-id</a> <i>number</i> <a href="#">committed-rate-kbps</a> <i>number</i>
<b>Tree</b>	<a href="#">committed-rate-kbps</a>
<b>Units</b>	kbps
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **exceed-action**

<b>Description</b>	Container with options that specify the handling of packets that the policer has determined are exceeding (yellow)
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i> <a href="#">policer sequence-id</a> <i>number</i> <a href="#">exceed-action</a>
<b>Tree</b>	<a href="#">exceed-action</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **drop-probability** *keyword*

<b>Description</b>	Recolor exceeding packets to the specified drop-probability level
<b>Context</b>	<a href="#">qos policer-templates policer-template name</a> <i>string</i> <a href="#">policer sequence-id</a> <i>number</i> <a href="#">exceed-action</a> <a href="#">drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Default</b>	medium
<b>Options</b>	<ul style="list-style-type: none"> <li>low</li> </ul>

Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.

- medium

Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.

- high

Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### forwarding-class **fc** (*reference* | *keyword*)

<b>Description</b>	The list of forwarding classes with traffic to be sent to the policer. If this list is not configured then all subinterface traffic is matched.
<b>Context</b>	<a href="#">qos policer-templates policer-template name string policer sequence-id number forwarding-class fc</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">forwarding-class</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **fc** (*reference* | *keyword*)

<b>Description</b>	A forwarding class that has traffic to match to the policer
<b>Context</b>	<a href="#">qos policer-templates policer-template name string policer sequence-id number forwarding-class fc</a> ( <i>reference</i>   <i>keyword</i> )
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> </ul>

- fc5  
System default forwarding-class name for the FC with index 5
- fc6  
System default forwarding-class name for the FC with index 6
- fc7  
System default forwarding-class name for the FC with index 7
- fc8  
System default forwarding-class name for the FC with index 8
- fc9  
System default forwarding-class name for the FC with index 9
- fc10  
System default forwarding-class name for the FC with index 10
- fc11  
System default forwarding-class name for the FC with index 11
- fc12  
System default forwarding-class name for the FC with index 12
- fc13  
System default forwarding-class name for the FC with index 13
- fc14  
System default forwarding-class name for the FC with index 14
- fc15  
System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **forwarding-type** *keyword*

<b>Description</b>	The list of forwarding types, belonging to this forwarding-class, to match to the policer. If none are specified, this implies ALL forwarding types.
<b>Context</b>	<a href="#">qos policer-templates policer-template name string policer sequence-id number forwarding-class fc (reference   keyword) forwarding-type keyword</a>
<b>Tree</b>	<a href="#">forwarding-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• unicast A packet is 'unicast' if the destination address is unicast and it matches an entry in the FIB</li> </ul>

- unknown-unicast  
A packet is 'unknown-unicast' if the destination address is unicast but it doesn't match any entry in the FIB and is therefore conventionally flooded
- broadcast  
A packet is 'broadcast' if the destination address is a broadcast address.
- multicast  
A packet is 'multicast' if the destination address is a multicast address  
On TD3 systems this includes multicast packets with a known destination/group address and multicast packets with an unknown destination/group address. On TD4 systems this only includes known multicast packets.
- unknown-multicast  
Multicast packets with an unknown destination/group address

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	5

### maximum-burst-size *number*

<b>Description</b>	Maximum PIR bucket depth in bytes On 7220-D2/D3 the lower limit is 512 Bytes and higher limit is 268 MB
<b>Context</b>	<a href="#">qos policer-templates policer-template name string policer sequence-id number maximum-burst-size number</a>
<b>Tree</b>	<a href="#">maximum-burst-size</a>
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### peak-rate-kbps *number*

<b>Description</b>	The peak information rate (PIR) of the policer, defined in kilobits (1024 bits) per second. On 7220-D2/D3 the minimum rate is 8 Kbps
<b>Context</b>	<a href="#">qos policer-templates policer-template name string policer sequence-id number peak-rate-kbps number</a>
<b>Tree</b>	<a href="#">peak-rate-kbps</a>
<b>Units</b>	kbps
<b>Configurable</b>	True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## violate-action

**Description** Container with options that specify the handling of packets that the policer has determined are violating (red)

**Context** [qos policer-templates policer-template name](#) *string* [policer sequence-id number](#) [violate-action](#)

**Tree** [violate-action](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## drop

**Description** Violating packets should be dropped immediately

**Context** [qos policer-templates policer-template name](#) *string* [policer sequence-id number](#) [violate-action](#) [drop](#)

**Tree** [drop](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## drop-probability *keyword*

**Description** Recolor violating packets to the specified drop-probability level

**Context** [qos policer-templates policer-template name](#) *string* [policer sequence-id number](#) [violate-action](#) [drop-probability](#) *keyword*

**Tree** [drop-probability](#)

**Default** high

- Options**
- low  
Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.
  - medium  
Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.
  - high

Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### statistics-mode *keyword*

<b>Description</b>	The statistics mode of all policers belonging to this template
<b>Context</b>	<a href="#">qos policer-templates policer-template name string statistics-mode keyword</a>
<b>Tree</b>	<a href="#">statistics-mode</a>
<b>Default</b>	violating-focus
<b>Options</b>	<ul style="list-style-type: none"> <li>violating-focus In this statistics mode only 4 counters are provided: accepted-packets, accepted-octets, violating-packets, violating-octets</li> <li>forwarding-focus In this statistics mode only 4 counters are provided: committed-packets, committed-octets, exceeding-packets, exceeding-octets</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### preserve-dscp *boolean*

<b>Description</b>	<p>When forwarding an untunneled IP packet or decapsulating an IP-in-IP packet, preserve the received DSCP and use it in the transmitted packet.</p> <p>This should not be enabled unless all IP packets have been classified by a multi-field classifier policy</p>
<b>Context</b>	<a href="#">qos preserve-dscp boolean</a>
<b>Tree</b>	<a href="#">preserve-dscp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e

### queue-templates

<b>Description</b>	Enter the queue-templates context
<b>Context</b>	<a href="#">qos queue-templates</a>

<b>Tree</b>	<a href="#">queue-templates</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **queue-template** *name string*

<b>Description</b>	List of queue templates that can be applied to egress queues or VOQ sets 7250 IXR-6/10 supports a maximum 8 queue-templates. 7220-D2/D3/D5/H2/H3 supports a maximum of 64 queue-templates.
<b>Context</b>	<a href="#">qos queue-templates queue-template name string</a>
<b>Tree</b>	<a href="#">queue-template</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	64

### **name** *string*

<b>Description</b>	The name of the queue template The queue template with the special name 'default' is used when a queue-template reference is missing.
<b>Context</b>	<a href="#">qos queue-templates queue-template name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **active-queue-management**

<b>Description</b>	Enable the active-queue-management context
<b>Context</b>	<a href="#">qos queue-templates queue-template name string active-queue-management</a>
<b>Tree</b>	<a href="#">active-queue-management</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ecn-slope** *ecn-drop-probability keyword*

<b>Description</b>	List of ECN slopes.
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<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">ecn-slope</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ecn-drop-probability** *keyword*

<b>Description</b>	The drop probability to which the ECN slope applies.
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> <li>• all All traffic, consisting of traffic marked low, medium and high drop-probability.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **max-probability** *number*

<b>Description</b>	<p>The maximum probability of marking a packet (at or above the max-threshold).</p> <p>On 7220-D2/D3/D5/H2/H3 max-probability has a limited set of discrete values: 1,2,3,4,5,6,7,8,9,10,25,50,75,100. The user is allowed to enter any value but the system will choose the next-highest value that is supported.</p> <p>A slope is disabled by setting min-threshold-percent=100, max-threshold-percent=100 and max-probability=0.</p>
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <a href="#">max-probability</a> <i>number</i>
<b>Tree</b>	<a href="#">max-probability</a>

<b>Range</b>	0 to 100
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **max-threshold-percent** *number*

<b>Description</b>	The percentage of the MBS that corresponds to the ECN maximum threshold parameter.  A slope is disabled by setting min-threshold-percent=100, max-threshold-percent=100 and max-probability=0.
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <b>max-threshold-percent</b> <i>number</i>
<b>Tree</b>	<a href="#">max-threshold-percent</a>
<b>Range</b>	0 to 100
<b>Default</b>	100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **min-threshold-percent** *number*

<b>Description</b>	The percentage of the MBS that corresponds to the ECN minimum threshold parameter.  A slope is disabled by setting min-threshold-percent=100, max-threshold-percent=100 and max-probability=0.
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management ecn-slope ecn-drop-probability</a> <i>keyword</i> <b>min-threshold-percent</b> <i>number</i>
<b>Tree</b>	<a href="#">min-threshold-percent</a>
<b>Range</b>	0 to 100
<b>Default</b>	100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**weight-factor** *number*

<b>Description</b>	Weight factor to use in the calculation of the current (average weighted) queue depth.
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management weight-factor</a> <i>number</i>
<b>Tree</b>	<a href="#">weight-factor</a>
<b>Range</b>	0 to 15
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**wred-slope** [traffic-type](#) *keyword* [drop-probability](#) *keyword*

<b>Description</b>	List of WRED slopes.
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">wred-slope</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**traffic-type** *keyword*

<b>Description</b>	The traffic type to which the WRED slope applies.
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• tcp Refers to IPv4/IPv6 packets with a protocol/next-header indicating a value of 6.</li> <li>• non-tcp Refers to all packets that are not IPv4/IPv6 packets with a protocol/next-header indicating a value of 6.</li> <li>• all Refers to all traffic, whether it is TCP or non-TCP.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**drop-probability** *keyword*

<b>Description</b>	The drop probability to which the WRED slope applies.
<b>Context</b>	<a href="#">qos queue-templates queue-template name string active-queue-management wred-slope traffic-type keyword drop-probability keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-probability** *number*

<b>Description</b>	<p>The maximum probability of dropping a packet (at or above the max-threshold).</p> <p>A slope is disabled by setting min-threshold-percent=100, max-threshold-percent=100 and max-probability=0</p>
<b>Context</b>	<a href="#">qos queue-templates queue-template name string active-queue-management wred-slope traffic-type keyword drop-probability keyword max-probability number</a>
<b>Tree</b>	<a href="#">max-probability</a>
<b>Range</b>	0 to 100
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-threshold-percent** *number*

<b>Description</b>	<p>The percentage of the MBS that corresponds to the WRED maximum threshold parameter.</p> <p>A slope is disabled by setting min-threshold-percent=100, max-threshold-percent=100 and max-probability=0</p>
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<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">max-threshold-percent</a> <i>number</i>
<b>Tree</b>	<a href="#">max-threshold-percent</a>
<b>Range</b>	0 to 100
<b>Default</b>	100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **min-threshold-percent** *number*

<b>Description</b>	The percentage of the MBS that corresponds to the WRED minimum threshold parameter.  A slope is disabled by setting min-threshold-percent=100, max-threshold-percent=100 and max-probability=0
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">active-queue-management wred-slope traffic-type</a> <i>keyword</i> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">min-threshold-percent</a> <i>number</i>
<b>Tree</b>	<a href="#">min-threshold-percent</a>
<b>Range</b>	0 to 100
<b>Default</b>	100
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **queue-depth**

<b>Description</b>	Enter the queue-depth context
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">queue-depth</a>
<b>Tree</b>	<a href="#">queue-depth</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **high-threshold-bytes** *number*

<b>Description</b>	The queue depth that, when crossed in a rising direction, triggers a hardware interrupt and a recording of the current system time.  The default value of 0 disables the functionality.
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On IXR-6/10 this parameter applies to a set of VOQs (and therefore to unicast traffic only). On 7220-D2/D3/H2/H3 this parameter applies to a unicast queue only; the configuration of this leaf is ignored when the queue-template is attached to a queue with queue-type other than unicast.

On 7220-D2/D3 the threshold is rounded up the nearest multiple of 2048 bytes. On IXR-6/10 the threshold is rounded up to the nearest multiple of 4096 bytes. On 7220-H2/H3 the threshold is rounded up to the nearest multiple of 254 bytes.

<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">queue-depth high-threshold-bytes</a> <i>number</i>
<b>Tree</b>	<a href="#">high-threshold-bytes</a>
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D5

### maximum-burst-size *number*

<b>Description</b>	<p>Maximum amount of shared buffer memory available to the queue.</p> <p>On IXR-6/10 this parameter applies to a set of VOQs. If the configured value is 0 or no value is configured the limit is 256 MB (268435456 bytes), however the use of 'alpha' may limit the effective value to less than 256 MB. A configured non-zero value sets a static limit without 'alpha'.</p> <p>On 7220-D2/D3/D5/H2/H3 this parameter applies to an egress queue and the default value of zero instructs the forwarding chip to apply its own limit based on 'alpha'. A non-zero value disables 'alpha'. The alpha value is 5 (0.25 multiplier of shared buffer space) for unicast queues and 4 (0.125 multiplier of shared buffer space) for multicast queues.</p> <p>Must be non-zero/non-default in order to add the active-queue-management presence container.</p>
<b>Context</b>	<a href="#">qos queue-templates queue-template name</a> <i>string</i> <a href="#">queue-depth maximum-burst-size</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-burst-size</a>
<b>Default</b>	0
<b>Units</b>	bytes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### queues

<b>Description</b>	Enclosing container for the list of user-defined queue names
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<b>Context</b>	<a href="#">qos queues</a>
<b>Tree</b>	<a href="#">queues</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **queue name string**

<b>Description</b>	List of user-defined queues
<b>Context</b>	<a href="#">qos queues queue name string</a>
<b>Tree</b>	<a href="#">queue</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **name string**

<b>Description</b>	User-defined name of the queue  The following queue names are the system-reserved default queue names on 7250 IXR systems: unicast-0, unicast-1, unicast-2, unicast-3, unicast-4, unicast-5, unicast-6, and unicast-7.
<b>Context</b>	<a href="#">qos queues queue name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **rewrite-rules**

<b>Description</b>	Enter the rewrite-rules context
<b>Context</b>	<a href="#">qos rewrite-rules</a>
<b>Tree</b>	<a href="#">rewrite-rules</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **dot1p-policy name string**

<b>Description</b>	Enter the dot1p-policy list instance
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name string</a>

<b>Tree</b>	<a href="#">dot1p-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**name** *string*

<b>Description</b>	User-configured name for an 802.1p priority code point rewrite policy.
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**map forwarding-class** (*reference* | *keyword*)

<b>Description</b>	Enter the map list instance
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">map</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**forwarding-class** (*reference* | *keyword*)

<b>Description</b>	The forwarding class name
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> )
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3 System default forwarding-class name for the FC with index 3</li> <li>• fc4 System default forwarding-class name for the FC with index 4</li> <li>• fc5</li> </ul>



- System default forwarding-class name for the FC with index 5
- fc6
  - System default forwarding-class name for the FC with index 6
- fc7
  - System default forwarding-class name for the FC with index 7
- fc8
  - System default forwarding-class name for the FC with index 8
- fc9
  - System default forwarding-class name for the FC with index 9
- fc10
  - System default forwarding-class name for the FC with index 10
- fc11
  - System default forwarding-class name for the FC with index 11
- fc12
  - System default forwarding-class name for the FC with index 12
- fc13
  - System default forwarding-class name for the FC with index 13
- fc14
  - System default forwarding-class name for the FC with index 14
- fc15
  - System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **dot1p number**

<b>Description</b>	The dot1p marking to be used for all packets associated with the FC, except those with a drop-probability-specific or profile-specific override.
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name string map forwarding-class (reference   keyword) dot1p number</a>
<b>Tree</b>	<a href="#">dot1p</a>
<b>Range</b>	0 to 7
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**drop-probability** *drop-probability keyword*

<b>Description</b>	Enter the drop-probability list instance
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name string map forwarding-class (reference   keyword) drop-probability drop-probability keyword</a>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**drop-probability** *keyword*

<b>Description</b>	A drop probability level within the FC for which a different remarking is desired.
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name string map forwarding-class (reference   keyword) drop-probability drop-probability keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dot1p** *number*

<b>Description</b>	The dot1p marking to be used for this specific drop-probability
<b>Context</b>	<a href="#">qos rewrite-rules dot1p-policy name string map forwarding-class (reference   keyword) drop-probability drop-probability keyword dot1p number</a>
<b>Tree</b>	<a href="#">dot1p</a>
<b>Range</b>	0 to 7
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dscp-policy** *name string*

<b>Description</b>	Enter the dscp-policy list instance
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name string</a>
<b>Tree</b>	<a href="#">dscp-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**name** *string*

<b>Description</b>	User-configured name for a DSCP rewrite policy.
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**map forwarding-class** (*reference | keyword*)

<b>Description</b>	Enter the map list instance
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name string map forwarding-class (reference   keyword)</a>
<b>Tree</b>	<a href="#">map</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**forwarding-class** (*reference | keyword*)

<b>Description</b>	The forwarding class name
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name string map forwarding-class (reference   keyword)</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• fc0 System default forwarding-class name for the FC with index 0</li> <li>• fc1 System default forwarding-class name for the FC with index 1</li> <li>• fc2 System default forwarding-class name for the FC with index 2</li> <li>• fc3</li> </ul>

- System default forwarding-class name for the FC with index 3
- fc4
- System default forwarding-class name for the FC with index 4
- fc5
- System default forwarding-class name for the FC with index 5
- fc6
- System default forwarding-class name for the FC with index 6
- fc7
- System default forwarding-class name for the FC with index 7
- fc8
- System default forwarding-class name for the FC with index 8
- fc9
- System default forwarding-class name for the FC with index 9
- fc10
- System default forwarding-class name for the FC with index 10
- fc11
- System default forwarding-class name for the FC with index 11
- fc12
- System default forwarding-class name for the FC with index 12
- fc13
- System default forwarding-class name for the FC with index 13
- fc14
- System default forwarding-class name for the FC with index 14
- fc15
- System default forwarding-class name for the FC with index 15

<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### drop-probability [drop-probability](#) *keyword*

<b>Description</b>	Enter the drop-probability list instance
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">drop-probability</a> <a href="#">drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### drop-probability *keyword*

<b>Description</b>	A drop probability level within the FC for which a different remarking is desired.
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string map forwarding-class</i> ( <i>reference   keyword</i> ) <a href="#">drop-probability drop-probability</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>• medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>• high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### dscp (*number | keyword*)

<b>Description</b>	The DSCP marking to be used for this specific drop-probability
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string map forwarding-class</i> ( <i>reference   keyword</i> ) <a href="#">drop-probability drop-probability</a> <i>keyword</i> <a href="#">dscp</a> ( <i>number   keyword</i> )
<b>Tree</b>	<a href="#">dscp</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>• CS0</li> <li>• LE</li> <li>• CS1</li> <li>• AF11</li> <li>• AF12</li> <li>• AF13</li> <li>• CS2</li> <li>• AF21</li> <li>• AF22</li> <li>• AF23</li> <li>• CS3</li> </ul>

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	<ul style="list-style-type: none"> <li>• AF31</li> <li>• AF32</li> <li>• AF33</li> <li>• CS4</li> <li>• AF41</li> <li>• AF42</li> <li>• AF43</li> <li>• CS5</li> <li>• EF</li> <li>• CS6</li> <li>• CS7</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **dscp** (*number* | *keyword*)

<b>Description</b>	The DSCP marking to be used for all packets associated with the FC, except those with a drop-probability-specific or profile-specific override.
<b>Context</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> ) <b>dscp</b> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">dscp</a>
<b>Range</b>	0 to 63
<b>Options</b>	<ul style="list-style-type: none"> <li>• CS0</li> <li>• LE</li> <li>• CS1</li> <li>• AF11</li> <li>• AF12</li> <li>• AF13</li> <li>• CS2</li> <li>• AF21</li> <li>• AF22</li> <li>• AF23</li> <li>• CS3</li> <li>• AF31</li> <li>• AF32</li> <li>• AF33</li> <li>• CS4</li> </ul>

- AF41
- AF42
- AF43
- CS5
- EF
- CS6
- CS7

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

### **mpls-traffic-class-policy** *name string*

<b>Description</b>	Enter the mpls-traffic-class-policy list instance
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name string</a>
<b>Tree</b>	<a href="#">mpls-traffic-class-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **name** *string*

<b>Description</b>	User-configured name for an MPLS traffic-class rewrite policy.
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **map forwarding-class** (*reference | keyword*)

<b>Description</b>	Enter the map list instance
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name string map forwarding-class (reference   keyword)</a>
<b>Tree</b>	<a href="#">map</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**forwarding-class** (*reference* | *keyword*)

<b>Description</b>	The forwarding class name
<b>Context</b>	<code>qos rewrite-rules mpls-traffic-class-policy name string map forwarding-class</code> ( <i>reference</i>   <i>keyword</i> )
<b>Options</b>	<ul style="list-style-type: none"><li>• fc0 System default forwarding-class name for the FC with index 0</li><li>• fc1 System default forwarding-class name for the FC with index 1</li><li>• fc2 System default forwarding-class name for the FC with index 2</li><li>• fc3 System default forwarding-class name for the FC with index 3</li><li>• fc4 System default forwarding-class name for the FC with index 4</li><li>• fc5 System default forwarding-class name for the FC with index 5</li><li>• fc6 System default forwarding-class name for the FC with index 6</li><li>• fc7 System default forwarding-class name for the FC with index 7</li><li>• fc8 System default forwarding-class name for the FC with index 8</li><li>• fc9 System default forwarding-class name for the FC with index 9</li><li>• fc10 System default forwarding-class name for the FC with index 10</li><li>• fc11 System default forwarding-class name for the FC with index 11</li><li>• fc12 System default forwarding-class name for the FC with index 12</li><li>• fc13 System default forwarding-class name for the FC with index 13</li><li>• fc14 System default forwarding-class name for the FC with index 14</li><li>• fc15 System default forwarding-class name for the FC with index 15</li></ul>



<b>Reference</b>	<a href="#">qos forwarding-classes forwarding-class name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### drop-probability [drop-probability](#) *keyword*

<b>Description</b>	Enter the drop-probability list instance
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">drop-probability</a> <a href="#">drop-probability</a> <i>keyword</i>
<b>Tree</b>	<a href="#">drop-probability</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### drop-probability *keyword*

<b>Description</b>	A drop probability level within the FC for which a different remarking is desired.
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">drop-probability</a> <a href="#">drop-probability</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>low Traffic that should be dropped last when there is congestion. Internally this is traffic that is colored green.</li> <li>medium Traffic that should be dropped before green traffic but after red traffic when there is congestion. Internally this is traffic that is colored yellow.</li> <li>high Traffic that should be dropped first when there is congestion. Internally this is traffic that is colored red.</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### traffic-class *number*

<b>Description</b>	The MPLS traffic class marking to be used for this specific drop-probability
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">drop-probability</a> <a href="#">drop-probability</a> <i>keyword</i> <a href="#">traffic-class</a> <i>number</i>
<b>Tree</b>	<a href="#">traffic-class</a>

<b>Range</b>	0 to 7
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **traffic-class** *number*

<b>Description</b>	The MPLS traffic class marking to be used for all packets associated with the FC, except those with a drop-probability-specific or profile-specific override.
<b>Context</b>	<a href="#">qos rewrite-rules mpls-traffic-class-policy name</a> <i>string</i> <a href="#">map forwarding-class</a> ( <i>reference</i>   <i>keyword</i> ) <a href="#">traffic-class number</a>
<b>Tree</b>	<a href="#">traffic-class</a>
<b>Range</b>	0 to 7
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **vxlan-outer-header-dscp-policy** *reference*

<b>Description</b>	Reference to the name of a DSCP rewrite policy that applies to the outer IP header of originating VXLAN packets.
<b>Context</b>	<a href="#">qos rewrite-rules vxlan-outer-header-dscp-policy</a> <i>reference</i>
<b>Tree</b>	<a href="#">vxlan-outer-header-dscp-policy</a>
<b>Reference</b>	<a href="#">qos rewrite-rules dscp-policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D4, 7220 IXR-D5

### **scheduler-policies**

<b>Description</b>	Container for the list of configured scheduler policies.
<b>Context</b>	<a href="#">qos scheduler-policies</a>
<b>Tree</b>	<a href="#">scheduler-policies</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**scheduler-policy** *name string*

<b>Description</b>	List of scheduler policies. A scheduler policy is a set of schedulers that are to be applied together. Each scheduler within a scheduler policy takes an input, and outputs it according to a scheduling discipline that is specified within it.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string</a>
<b>Tree</b>	<a href="#">scheduler-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**name** *string*

<b>Description</b>	Name for the scheduler policy.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**scheduler** *sequence number*

<b>Description</b>	List of defined QoS traffic schedulers.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string scheduler sequence number</a>
<b>Tree</b>	<a href="#">scheduler</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**sequence** *number*

<b>Description</b>	Sequence number for the scheduler within the scheduler policy. Schedulers are processed from lowest sequence to highest.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string scheduler sequence number</a>
<b>Range</b>	0 to 2
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**input id string**

<b>Description</b>	List of input sources for the scheduler.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string scheduler sequence number input id string</a>
<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**id string**

<b>Description</b>	User-defined identifier for the scheduler input
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string scheduler sequence number input id string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**queue (reference | keyword)**

<b>Description</b>	The queue that is the input to the scheduler
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name string scheduler sequence number input id string queue (reference   keyword)</a>
<b>Tree</b>	<a href="#">queue</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• unicast-0</li> <li>• unicast-1</li> <li>• unicast-2</li> <li>• unicast-3</li> <li>• unicast-4</li> <li>• unicast-5</li> <li>• unicast-6</li> <li>• unicast-7</li> <li>• multicast-0</li> <li>• multicast-1</li> <li>• multicast-2</li> <li>• multicast-3</li> <li>• multicast-4</li> <li>• multicast-5</li> <li>• multicast-6</li> </ul>

- multicast-7
- queue-0
- queue-1
- queue-2
- queue-3
- queue-4
- queue-5
- queue-6
- queue-7
- queue-8
- queue-9
- queue-10
- queue-11
- queue-12
- queue-13
- queue-14
- queue-15

<b>Reference</b>	<a href="#">qos queues queue name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **weight** *number*

<b>Description</b>	For weighted round-robin schedulers, this leaf indicates the weight of the corresponding input.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name</a> <i>string</i> <a href="#">scheduler sequence number</a> <a href="#">input id</a> <i>string</i> <a href="#">weight</a> <i>number</i>
<b>Tree</b>	<a href="#">weight</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **priority** *keyword*

<b>Description</b>	Priority of the scheduler within the scheduler policy.
<b>Context</b>	<a href="#">qos scheduler-policies scheduler-policy name</a> <i>string</i> <a href="#">scheduler sequence number</a> <a href="#">priority</a> <i>keyword</i>
<b>Tree</b>	<a href="#">priority</a>

<b>Options</b>	<ul style="list-style-type: none"><li>• strict</li></ul> <p>This scheduler term is considered as a strict priority term - such that packets that arrive in the queue are immediately serviced.</p>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## 9 routing-policy

```

routing-policy
+ as-path-set name string
+ expression string
+ community-set name string
+ member (bgp-std-community-type | bgp-std-community-regexp-type | identityref | bgp-large-community-type | bgp-large-community-regexp-type)
+ policy name string
+ default-action
+ bgp
+ as-path
+ prepend
+ as-number (number | keyword)
+ repeat-n number
+ remove boolean
+ replace number
+ communities
+ add reference
+ remove reference
+ replace reference
+ local-preference
+ set number
+ med
+ set (number | keyword)
+ origin
+ set keyword
+ policy-result keyword
+ statement name string
+ action
+ bgp
+ as-path
+ prepend
+ as-number (number | keyword)
+ repeat-n number
+ remove boolean
+ replace number
+ communities
+ add reference
+ remove reference
+ replace reference
+ local-preference
+ set number
+ med
+ set (number | keyword)
+ origin
+ set keyword
+ policy-result keyword
+ match
+ bgp
+ as-path-length
+ operator keyword
+ unique boolean
+ value number
+ as-path-set reference
+ community-set reference
+ evpn
+ route-type number

```

```
+ family identityref
+ isis
  + level number
  + route-type keyword
+ ospf
  + area-id
  + instance-id number
  + route-type identityref
  + prefix-set reference
  + protocol identityref
+ prefix-set name string
  + prefix ip-prefix (ipv4-prefix | ipv6-prefix) mask-length-range string
```



## 9.1 routing-policy Descriptions

### routing-policy

<b>Description</b>	Top-level container for all routing policy configuration
<b>Context</b>	<a href="#">routing-policy</a>
<b>Tree</b>	<a href="#">routing-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### as-path-set *name string*

<b>Description</b>	AS Path regular expressions for use in policy entries
<b>Context</b>	<a href="#">routing-policy as-path-set name string</a>
<b>Tree</b>	<a href="#">as-path-set</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	A name used to identify the AS path regular expression
<b>Context</b>	<a href="#">routing-policy as-path-set name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### expression *string*

<b>Description</b>	A regular expression where each AS number is an elemental term
<b>Context</b>	<a href="#">routing-policy as-path-set name string expression string</a>
<b>Tree</b>	<a href="#">expression</a>
<b>String Length</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**community-set** *name string*

<b>Description</b>	List of BGP community sets containing standard and large BGP communities
<b>Context</b>	<a href="#">routing-policy community-set name string</a>
<b>Tree</b>	<a href="#">community-set</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	A name used to identify the community set
<b>Context</b>	<a href="#">routing-policy community-set name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**member** (*bgp-std-community-type | bgp-std-community-regexp-type | identityref | bgp-large-community-type | bgp-large-community-regexp-type*)

<b>Description</b>	A standard BGP community value, regular expression or well-known name or else a large BGP community value or regular expression
<b>Context</b>	<a href="#">routing-policy community-set name string member (bgp-std-community-type   bgp-std-community-regexp-type   identityref   bgp-large-community-type   bgp-large-community-regexp-type)</a>
<b>Tree</b>	<a href="#">member</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>no-export Do not export NLRI received carrying this community outside the bounds of this autonomous system, or this confederation if the local autonomous system is a confederation member AS. This community has a value of 0xFFFFFFFF01.</li> <li>no-advertise All NLRI received carrying this community must not be advertised to other BGP peers. This community has a value of 0xFFFFFFFF02.</li> <li>no-export-subconfed All NLRI received carrying this community must not be advertised to external BGP peers - including over confederation sub-AS boundaries. This community has a value of 0xFFFFFFFF03.</li> </ul>
<b>Configurable</b>	True

<b>Platforms</b>	Supported on all platforms
<b>Min. Elements</b>	1

### policy *name string*

<b>Description</b>	List of policy definitions, keyed by unique name These policy definitions are expected to be referenced (by name) in policy in import-policy and/or export-policy statements.
<b>Context</b>	<a href="#">routing-policy policy name string</a>
<b>Tree</b>	<a href="#">policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	A name used to identify the policy
<b>Context</b>	<a href="#">routing-policy policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### default-action

<b>Description</b>	Actions for routes that do not match any policy entry
<b>Context</b>	<a href="#">routing-policy policy name string default-action</a>
<b>Tree</b>	<a href="#">default-action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### bgp

<b>Description</b>	Enter the bgp context
<b>Context</b>	<a href="#">routing-policy policy name string default-action bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**as-path**

<b>Description</b>	Modify AS Path attribute of routes
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp as-path</a>
<b>Tree</b>	<a href="#">as-path</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prepend**

<b>Description</b>	Prepend a BGP AS number to the AS Path attribute of routes
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp as-path prepend</a>
<b>Tree</b>	<a href="#">prepend</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**as-number** (*number* | *keyword*)

<b>Description</b>	The AS number to prepend to the AS Path attributes If 'auto' is specified then the peer's AS number is used in the context of an import policy and the local AS number is used in the context of an export policy.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp as-path prepend as-number</a> ( <i>number</i>   <i>keyword</i> )
<b>Tree</b>	<a href="#">as-number</a>
<b>Range</b>	1 to 4294967295
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**repeat-n** *number*

<b>Description</b>	The number of repetitions of the prepended AS number
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp as-path prepend repeat-n</a> <i>number</i>
<b>Tree</b>	<a href="#">repeat-n</a>

<b>Range</b>	1 to 50
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**remove *boolean***

<b>Description</b>	Clear the AS path to make it empty.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp as-path remove</a> <i>boolean</i>
<b>Tree</b>	<a href="#">remove</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**replace *number***

<b>Description</b>	Clear the existing AS path and replace it a new AS_SEQUENCE containing the listed AS numbers.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp as-path replace</a> <i>number</i>
<b>Tree</b>	<a href="#">replace</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**communities**

<b>Description</b>	Modify BGP communities attached to routes
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp communities</a>
<b>Tree</b>	<a href="#">communities</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**add *reference***

<b>Description</b>	Reference to a community-set name All of the non-regex community members in the referenced community-set are added to the COMMUNITIES and LARGE_COMMUNITIES attributes.
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---

<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp communities add reference</a>
<b>Tree</b>	<a href="#">add</a>
<b>Reference</b>	<a href="#">routing-policy community-set name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**remove reference**

<b>Description</b>	Reference to a community-set name The communities in the route are compared to all of the community members in the referenced community-set, and all matching communities are removed from the COMMUNITIES and LARGE_COMMUNITIES attributes.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp communities remove reference</a>
<b>Tree</b>	<a href="#">remove</a>
<b>Reference</b>	<a href="#">routing-policy community-set name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**replace reference**

<b>Description</b>	Reference to a community-set name All of the existing communities are deleted and then all of the non-regex community members in the referenced community-set are encoded in new COMMUNITIES and LARGE_COMMUNITIES attributes.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp communities replace reference</a>
<b>Tree</b>	<a href="#">replace</a>
<b>Reference</b>	<a href="#">routing-policy community-set name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**local-preference**

<b>Description</b>	Enter the local-preference context
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action bgp local-preference</a>

<b>Tree</b>	<a href="#">local-preference</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**set number**

<b>Description</b>	The new value of LOCAL_PREF to write into the matching BGP routes
<b>Context</b>	<a href="#">routing-policy policy name string default-action bgp local-preference set number</a>
<b>Tree</b>	<a href="#">set</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**med**

<b>Description</b>	Enter the med context
<b>Context</b>	<a href="#">routing-policy policy name string default-action bgp med</a>
<b>Tree</b>	<a href="#">med</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**set (number | keyword)**

<b>Description</b>	The new value of the Multi-Exit Discriminator attribute value to write into the matching BGP routes. The route-table-cost option derives the MED from the route metric.
<b>Context</b>	<a href="#">routing-policy policy name string default-action bgp med set (number   keyword)</a>
<b>Tree</b>	<a href="#">set</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• route-table-cost</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**origin**

<b>Description</b>	Enter the origin context
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action</a> <a href="#">bgp origin</a>
<b>Tree</b>	<a href="#">origin</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**set** *keyword*

<b>Description</b>	The new value of the ORIGIN attribute to write into the matching BGP routes
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action</a> <a href="#">bgp origin set</a> <i>keyword</i>
<b>Tree</b>	<a href="#">set</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">igp</a></li> <li>• <a href="#">egp</a></li> <li>• <a href="#">incomplete</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**policy-result** *keyword*

<b>Description</b>	Select the final disposition for the route.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">default-action</a> <a href="#">policy-result</a> <i>keyword</i>
<b>Tree</b>	<a href="#">policy-result</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">accept</a> Policy accepts the route</li> <li>• <a href="#">reject</a> Policy rejects the route</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statement** *name string*

<b>Description</b>	Policy statements group conditions and actions within a policy definition. They are evaluated in configuration order.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i>



<b>Tree</b>	<a href="#">statement</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name given to the policy statement (rule).
<b>Context</b>	<a href="#">routing-policy policy name string statement name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**action**

<b>Description</b>	Actions for routes that match the policy statement
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action</a>
<b>Tree</b>	<a href="#">action</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**bgp**

<b>Description</b>	Enter the bgp context
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**as-path**

<b>Description</b>	Modify AS Path attribute of routes
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp as-path</a>
<b>Tree</b>	<a href="#">as-path</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prepend**

<b>Description</b>	Prepend a BGP AS number to the AS Path attribute of routes
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp as-path prepend</a>
<b>Tree</b>	<a href="#">prepend</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**as-number** (*number* | *keyword*)

<b>Description</b>	The AS number to prepend to the AS Path attributes If 'auto' is specified then the peer's AS number is used in the context of an import policy and the local AS number is used in the context of an export policy.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp as-path prepend as-number (number   keyword)</a>
<b>Tree</b>	<a href="#">as-number</a>
<b>Range</b>	1 to 4294967295
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**repeat-n** *number*

<b>Description</b>	The number of repetitions of the prepended AS number
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp as-path prepend repeat-n number</a>
<b>Tree</b>	<a href="#">repeat-n</a>
<b>Range</b>	1 to 50
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**remove** *boolean*

<b>Description</b>	Clear the AS path to make it empty.
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<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">action bgp as-path remove</a> <i>boolean</i>
<b>Tree</b>	<a href="#">remove</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**replace** *number*

<b>Description</b>	Clear the existing AS path and replace it a new AS_SEQUENCE containing the listed AS numbers.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">action bgp as-path replace</a> <i>number</i>
<b>Tree</b>	<a href="#">replace</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**communities**

<b>Description</b>	Modify BGP communities attached to routes
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">action bgp communities</a>
<b>Tree</b>	<a href="#">communities</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**add** *reference*

<b>Description</b>	Reference to a community-set name All of the non-regex community members in the referenced community-set are added to the COMMUNITIES and LARGE_COMMUNITIES attributes.
<b>Context</b>	<a href="#">routing-policy policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">action bgp communities add</a> <i>reference</i>
<b>Tree</b>	<a href="#">add</a>
<b>Reference</b>	<a href="#">routing-policy community-set name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**remove *reference***

<b>Description</b>	Reference to a community-set name  The communities in the route are compared to all of the community members in the referenced community-set, and all matching communities are removed from the COMMUNITIES and LARGE_COMMUNITIES attributes.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp communities remove reference</a>
<b>Tree</b>	<a href="#">remove</a>
<b>Reference</b>	<a href="#">routing-policy community-set name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**replace *reference***

<b>Description</b>	Reference to a community-set name  All of the existing communities are deleted and then all of the non-regex community members in the referenced community-set are encoded in new COMMUNITIES and LARGE_COMMUNITIES attributes.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp communities replace reference</a>
<b>Tree</b>	<a href="#">replace</a>
<b>Reference</b>	<a href="#">routing-policy community-set name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**local-preference**

<b>Description</b>	Enter the local-preference context
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp local-preference</a>
<b>Tree</b>	<a href="#">local-preference</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**set *number***

<b>Description</b>	The new value of LOCAL_PREF to write into the matching BGP routes
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<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp local-preference set number</a>
<b>Tree</b>	<a href="#">set</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## med

<b>Description</b>	Enter the med context
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp med</a>
<b>Tree</b>	<a href="#">med</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## set (*number* | *keyword*)

<b>Description</b>	The new value of the Multi-Exit Discriminator attribute value to write into the matching BGP routes. The route-table-cost option derives the MED from the route metric.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp med set (<i>number</i>   <i>keyword</i>)</a>
<b>Tree</b>	<a href="#">set</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>route-table-cost</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## origin

<b>Description</b>	Enter the origin context
<b>Context</b>	<a href="#">routing-policy policy name string statement name string action bgp origin</a>
<b>Tree</b>	<a href="#">origin</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**set** *keyword*

<b>Description</b>	The new value of the ORIGIN attribute to write into the matching BGP routes
<b>Context</b>	<a href="#">routing-policy</a> <a href="#">policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">action</a> <a href="#">bgp</a> <a href="#">origin</a> <a href="#">set</a> <i>keyword</i>
<b>Tree</b>	<a href="#">set</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">igp</a></li> <li>• <a href="#">egp</a></li> <li>• <a href="#">incomplete</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**policy-result** *keyword*

<b>Description</b>	Select the final disposition for the route.
<b>Context</b>	<a href="#">routing-policy</a> <a href="#">policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">action</a> <a href="#">policy-result</a> <i>keyword</i>
<b>Tree</b>	<a href="#">policy-result</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">accept</a> Policy accepts the route</li> <li>• <a href="#">reject</a> Policy rejects the route</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match**

<b>Description</b>	Match conditions of the policy statement
<b>Context</b>	<a href="#">routing-policy</a> <a href="#">policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">match</a>
<b>Tree</b>	<a href="#">match</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**bgp**

<b>Description</b>	Configuration for BGP-specific policy match criteria
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<b>Context</b>	<a href="#">routing-policy policy name string statement name string match bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## as-path-length

<b>Description</b>	A BGP route matches this condition if the number of (unique) AS numbers in its AS_PATH matches this value or the range implied by the value+operator.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match bgp as-path-length</a>
<b>Tree</b>	<a href="#">as-path-length</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## operator *keyword*

<b>Description</b>	The comparison operator that applies to the value
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match bgp as-path-length operator keyword</a>
<b>Tree</b>	<a href="#">operator</a>
<b>Default</b>	eq
<b>Options</b>	<ul style="list-style-type: none"> <li>• eq</li> <li>• ge</li> <li>• le</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## unique *boolean*

<b>Description</b>	Count a repeated sequence of the same AS number as just 1 element
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match bgp as-path-length unique boolean</a>
<b>Tree</b>	<a href="#">unique</a>
<b>Default</b>	false
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **value** *number*

**Description** The number of (unique) AS numbers in the AS path

**Context** [routing-policy policy name](#) *string* [statement name](#) *string* [match bgp as-path-length value](#) *number*

**Tree** [value](#)

**Range** 0 to 255

**Configurable** True

**Platforms** Supported on all platforms

### **as-path-set** *reference*

**Description** Reference to an as-path-set name  
A route meets this condition if it matches the regular expression

**Context** [routing-policy policy name](#) *string* [statement name](#) *string* [match bgp as-path-set reference](#)

**Tree** [as-path-set](#)

**Reference** [routing-policy as-path-set name](#) *string*

**Configurable** True

**Platforms** Supported on all platforms

### **community-set** *reference*

**Description** Reference to a community-set name  
A route meets this condition if has any community value matching a community member in the referenced community-set

**Context** [routing-policy policy name](#) *string* [statement name](#) *string* [match bgp community-set reference](#)

**Tree** [community-set](#)

**Reference** [routing-policy community-set name](#) *string*

**Configurable** True

**Platforms** Supported on all platforms



**evpn**

<b>Description</b>	Container for match conditions that are specific to BGP EVPN routes.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match bgp evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**route-type number**

<b>Description</b>	An EVPN route meets this condition if the route-type field in the NLRI is one of the values provided in this list.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match bgp evpn route-type number</a>
<b>Tree</b>	<a href="#">route-type</a>
<b>Range</b>	1 to 5
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**family identityref**

<b>Description</b>	The name of an address family A route meets this condition if the prefix belongs to one of the indicated address families.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match family identityref</a>
<b>Tree</b>	<a href="#">family</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv4-unicast</a> Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)</li> <li>• <a href="#">ipv6-unicast</a> Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)</li> <li>• <a href="#">evpn</a> EVPN routes (AFI = 25, SAFI = 70)</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**isis**

<b>Description</b>	Configuration for ISIS-specific policy match criteria
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match isis</a>
<b>Tree</b>	<a href="#">isis</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**level number**

<b>Description</b>	IS-IS route level
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match isis level number</a>
<b>Tree</b>	<a href="#">level</a>
<b>Range</b>	1 to 2
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**route-type keyword**

<b>Description</b>	An IS-IS IPv4 prefix is external if it is signalled in TLV 130 or TLV135 with RFC 7794 X flag=1. An IS-IS IPv6 prefix is external if the TLV 236/TLV 237 external bit = 1.
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match isis route-type keyword</a>
<b>Tree</b>	<a href="#">route-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• internal</li> <li>• external</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ospf**

<b>Description</b>	Configuration for OSPF-specific policy match criteria
<b>Context</b>	<a href="#">routing-policy policy name string statement name string match ospf</a>
<b>Tree</b>	<a href="#">ospf</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### area-id

**Description** The area identifier as a dotted-quad.

**Context** [routing-policy policy name string statement name string match ospf area-id](#)

**Tree** [area-id](#)

**Configurable** True

**Platforms** Supported on all platforms

### instance-id *number*

**Description** OSPFv3 instance identifier

**Context** [routing-policy policy name string statement name string match ospf instance-id number](#)

**Tree** [instance-id](#)

**Range** 0 to 255

**Configurable** True

**Platforms** Supported on all platforms

### route-type *identityref*

**Description** The OSPF route type.

**Context** [routing-policy policy name string statement name string match ospf route-type identityref](#)

**Tree** [route-type](#)

**Options**

- type-1-ext  
The route has path-type type 1 external
- type-2-ext  
The route has path-type type 2 external

**Configurable** True

**Platforms** Supported on all platforms

### prefix-set *reference*

**Description** Reference to a prefix set name

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<b>Context</b>	<a href="#">routing-policy</a> <a href="#">policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">match</a> <a href="#">prefix-set</a> <a href="#">reference</a>
<b>Tree</b>	<a href="#">prefix-set</a>
<b>Reference</b>	<a href="#">routing-policy</a> <a href="#">prefix-set name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **protocol** *identityref*

<b>Description</b>	The route type to match
<b>Context</b>	<a href="#">routing-policy</a> <a href="#">policy name</a> <i>string</i> <a href="#">statement name</a> <i>string</i> <a href="#">match</a> <a href="#">protocol</a> <a href="#">identityref</a>
<b>Tree</b>	<a href="#">protocol</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• aggregate Locally configured aggregate route</li> <li>• arp-nd IP route added by ARP ND.</li> <li>• bgp Border Gateway Protocol version 4</li> <li>• bgp-evpn BGP Ethernet VPN (EVPN)</li> <li>• dhcp IP (default) route added by DHCP.</li> <li>• gribi A gRIBI route</li> <li>• host A host route</li> <li>• isis IS-IS</li> <li>• local A directly connected route</li> <li>• linux IP route added by the linux kernel.</li> <li>• ndk1 Route added by an agent application using the NDK</li> <li>• ndk2</li> </ul>

Route added by an agent application using the NDK

- ospfv2  
OSPFv2
- ospfv3  
OSPFv3
- static  
Locally configured static route

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### prefix-set *name string*

<b>Description</b>	List of defined prefix sets
<b>Context</b>	<a href="#">routing-policy prefix-set name string</a>
<b>Tree</b>	<a href="#">prefix-set</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	A name used to identify the prefix set
<b>Context</b>	<a href="#">routing-policy prefix-set name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### prefix *ip-prefix (ipv4-prefix | ipv6-prefix) mask-length-range string*

<b>Description</b>	List of prefixes in the prefix set
<b>Context</b>	<a href="#">routing-policy prefix-set name string prefix ip-prefix (ipv4-prefix   ipv6-prefix) mask-length-range string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-prefix** (*ipv4-prefix* | *ipv6-prefix*)

<b>Description</b>	The IPv4 or IPv6 prefix in CIDR notation
<b>Context</b>	<a href="#">routing-policy prefix-set name</a> <i>string</i> <a href="#">prefix ip-prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">mask-length-range</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mask-length-range** *string*

<b>Description</b>	The range of prefix lengths to match Example: 10.3.192.0/21 through 10.3.192.0/24 would be expressed as prefix: 10.3.192.0/21, mask-length-range: 21..24. Example: 10.3.192.0/21 would be expressed as prefix: 10.3.192.0/21, mask-length-range: exact
<b>Context</b>	<a href="#">routing-policy prefix-set name</a> <i>string</i> <a href="#">prefix ip-prefix</a> ( <i>ipv4-prefix</i>   <i>ipv6-prefix</i> ) <a href="#">mask-length-range</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 10 system

```

system
+ aaa
+ accounting
+ accounting-method reference
+ event event-type identityref
+ record identityref
+ authentication
+ admin-user
- failed-login-attempts number
- last-failed-login string
- last-successful-login string
- lockout
- active boolean
- end string
- start string
+ password string
- password-change-required boolean
- username string
+ authentication-method reference
+ exit-on-reject boolean
+ idle-timeout number
+ linuxadmin-user
+ password string
- username string
+ password
+ aging number
+ change-on-first-login boolean
+ complexity-rules
+ allow-username boolean
+ maximum-length number
+ minimum-length number
+ minimum-lowercase number
+ minimum-numeric number
+ minimum-special-character number
+ minimum-uppercase number
+ history number
+ lockout-policy
+ attempts number
+ lockout number
+ time number
- session id number
- authentication-method string
- login-time string
- priv-lvl number
- remote-host string
- service-name string
- tty-name string
- username string
+ user username string
- failed-login-attempts number
- last-failed-login string
- last-successful-login string
- lockout
- active boolean
- end string
- start string

```

```

+ password string
- password-change-required boolean
+ role reference
+ ssh-key string
+ authorization
+ role rolename string
+ cli
+ allow-command-list string
+ deny-command-list string
+ load-global-plugins boolean
+ load-user-plugins boolean
+ services keyword
+ tacacs
+ priv-lvl number
+ server-group name string
+ priv-lvl-authorization boolean
+ server address (ipv4-address | ipv6-address)
+ name string
+ network-instance reference
- oper-state keyword
+ radius
+ acct-port number
+ auth-port number
+ retransmit-attempts number
+ secret-key string
- statistics
- accounting-connection-failures number
- accounting-rejects number
- accounting-success number
- authorization-connection-failures number
- authorization-rejects number
- authorization-success number
- login-connection-failures number
- login-rejects number
- login-success number
+ tacacs
+ port number
+ secret-key string
+ timeout number
+ type identityref
- app-management
- application name string
- author string
- cgroup string
- failure-action string
- failure-threshold number
- failure-window number
- last-change string
- last-start-type keyword
- launch-command string
- oom-score-adj number
- path string
- pid number
- restricted-operations keyword
- search-command string
- state keyword
- statistics
- restart-count number
- supported-restart-types keyword
- version string
- yang
- modules string
- source-directories string
+ authentication

```



```

+ keychain name string
- active-key-for-send (keyword | reference)
+ admin-state keyword
+ description string
- expired boolean
+ key index number
  + algorithm keyword
  + authentication-key string
+ type keyword
- usable boolean
+ banner
+ login-banner string
+ motd-banner string
+ boot
+ autoboot
  + admin-state keyword
  + attempts number
  + client-id keyword
  + interface reference
  + mode string
  - oper-state string
  + timeout number
  - golden-image string
  - image string
+ bridge-table
+ mac-learning
  - mac-relearn-only boolean
+ mac-limit
  - maximum-entries number
  - warning-threshold-pct number
- proxy-arp
- statistics
  - active-entries number
  - in-active-entries number
  - neighbor-origin origin keyword
    - active-entries number
    - in-active-entries number
    - pending-entries number
    - total-entries number
  - pending-entries number
  - total-entries number
- proxy-nd
- statistics
  - active-entries number
  - in-active-entries number
  - neighbor-origin origin keyword
    - active-entries number
    - in-active-entries number
    - pending-entries number
    - total-entries number
  - pending-entries number
  - total-entries number
- statistics
  - active-entries number
  - failed-entries number
  - mac-type type keyword
    - active-entries number
    - failed-entries number
    - total-entries number
  - total-entries number
+ clock
+ timezone keyword
+ configuration
+ auto-checkpoint boolean

```

```

- candidate name string
- started string
- type keyword
- username string
- checkpoint id number
- comment string
- created string
- name string
- size number
- tag string
- username string
- version string
- commit id number
- comment string
- ended string
- name string
- started string
- status keyword
- type keyword
- username string
+ idle-timeout number
- last-change string
+ max-candidates number
+ max-checkpoints number
+ role name reference
+ rule path-reference string
+ action keyword
- session id number
- exclusive boolean
- name string
- started string
- type keyword
- username string
+ dhcp-server
+ admin-state keyword
+ network-instance name reference
+ dhcpv4
+ admin-state keyword
- oper-state keyword
+ options
+ bootfile-name string
+ dns-server string
+ domain-name string
+ hostname string
+ ntp-server string
+ router string
+ server-id string
+ tftp-server-address string
+ tftp-server-name string
+ static-allocation
+ host mac string
+ ip-address string
+ options
+ bootfile-name string
+ dns-server string
+ domain-name string
+ hostname string
+ ntp-server string
+ router string
+ server-id string
+ tftp-server-address string
+ tftp-server-name string
- statistics
- client-packets-discarded number

```

```

- client-packets-received number
- server-packets-sent number
+ trace-options
+ trace keyword
+ dhcpv6
+ admin-state keyword
- oper-state keyword
+ options
+ dns-server string
+ static-allocation
+ host mac string
+ ip-address string
+ options
+ dns-server string
- statistics
- client-packets-discarded number
- client-packets-received number
- server-packets-sent number
+ trace-options
+ trace keyword
+ dns
+ host-entry name string
+ ipv4-address string
+ ipv6-address string
+ network-instance reference
- oper-state keyword
+ search-list string
+ server-list (ipv4-address | ipv6-address)
+ event-handler
+ instance name string
+ admin-state keyword
- last-errored-execution
- end-time string
- input string
- oper-down-reason keyword
- oper-down-reason-detail string
- output string
- start-time string
- stdout-stderr string
- upython-duration number
- last-execution
- end-time string
- input string
- oper-down-reason keyword
- oper-down-reason-detail string
- output string
- start-time string
- stdout-stderr string
- upython-duration number
- oper-state keyword
+ options
+ object name string
+ value string
+ values string
+ paths string
- statistics
- execution-count number
- execution-errors number
- execution-successes number
- execution-timeouts number
- upython-duration number
+ upython-script string
+ run-as-user reference
- features string

```

```

+ ftp-server
+ network-instance name reference
+ admin-state keyword
- oper-state keyword
+ session-limit number
+ source-address (ipv4-address | ipv6-address)
+ timeout number
+ gnmi-server
+ admin-state keyword
+ commit-confirmed-timeout number
+ commit-save boolean
+ include-defaults-in-config-only-responses boolean
+ network-instance name reference
+ admin-state keyword
- oper-state keyword
+ port number
+ source-address (ipv4-address | ipv6-address)
+ tls-profile reference
+ use-authentication boolean
+ yang-models keyword
+ rate-limit number
+ session-limit number
- subscription id number
- mode keyword
- paths string
- remote-host (ipv4-address | ipv6-address)
- remote-port number
- sample-interval number
- start-time string
- user string
- user-agent string
+ timeout number
+ trace-options keyword
+ unix-socket
+ admin-state keyword
- oper-state keyword
- socket-path string
+ tls-profile reference
+ use-authentication boolean
+ yang-models keyword
+ gribi-server
+ admin-state keyword
- client id number
- election-id string
- persistence-mode keyword
- remote-host (ipv4-address | ipv6-address)
- remote-port number
- start-time string
- user string
- user-agent string
+ network-instance name reference
+ admin-state keyword
- oper-state keyword
+ port number
+ source-address (ipv4-address | ipv6-address)
+ tls-profile reference
+ use-authentication boolean
+ rate-limit number
+ session-limit number
+ timeout number
+ trace-options keyword
+ unix-socket
+ admin-state keyword
- oper-state keyword

```

```

- socket-path string
+ tls-profile reference
+ use-authentication boolean
+ information
+ contact string
- current-datetime string
- description string
- last-booted string
+ location string
- version string
+ json-rpc-server
+ admin-state keyword
+ commit-confirmed-timeout number
+ network-instance name reference
+ http
+ admin-state keyword
- oper-state keyword
+ port number
+ session-limit number
+ source-address (ipv4-address | ipv6-address)
+ use-authentication boolean
+ https
+ admin-state keyword
- oper-state keyword
+ port number
+ session-limit number
+ source-address (ipv4-address | ipv6-address)
+ tls-profile reference
+ use-authentication boolean
+ trace-options keyword
+ unix-socket
+ admin-state keyword
- oper-state keyword
- socket-path string
+ tls-profile reference
+ use-authentication boolean
- l2cp-transparency
- l2cp-statistics
- dot1x
- in-trap-to-cpu-packets number
- in-tunneled-packets number
- last-clear string
- lacp
- in-trap-to-cpu-packets number
- in-tunneled-packets number
- last-clear string
- last-clear string
- lldp
- in-trap-to-cpu-packets number
- in-tunneled-packets number
- last-clear string
- ptp
- in-trap-to-cpu-packets number
- in-tunneled-packets number
- last-clear string
- total-in-discarded-packets number
- total-in-packets number
- total-in-trap-to-cpu-packets number
- total-in-tunneled-packets number
- xstp
- in-trap-to-cpu-packets number
- in-tunneled-packets number
- last-clear string
+ lacp

```

```

+ system-id string
+ system-priority number
+ license id string
+ admin-state keyword
+ data string
+ description string
- expiration-date string
- expired boolean
- in-use boolean
- issued-date string
+ preferred boolean
- valid boolean
+ lldp
+ admin-state keyword
- chassis-id string
- chassis-id-type keyword
+ hello-timer number
+ hold-multiplier number
+ interface name reference
+ admin-state keyword
- neighbor id string
  - capability name identityref
    - enabled boolean
  - chassis-id string
  - chassis-id-type keyword
  - custom-tlv type number oui string oui-subtype string
    - value binary
  - first-message string
  - last-update string
  - management-address address string
    - type keyword
  - port-description string
  - port-id (string | binary)
  - port-id-type keyword
  - system-description string
  - system-name string
- oper-state keyword
- statistics
  - frame-discard number
  - frame-error-in number
  - frame-error-out number
  - frame-in number
  - frame-out number
  - last-clear string
  - tlv-discard number
  - tlv-unknown number
+ management-address subinterface string
+ type keyword
- statistics
  - entries-aged-out number
  - frame-discard number
  - frame-error-in number
  - frame-in number
  - frame-out number
  - last-clear string
  - tlv-accepted number
  - tlv-discard number
  - tlv-unknown number
- system-description string
- system-name string
+ trace-options keyword
+ load-balancing
+ hash-options
+ destination-address boolean

```

```

+ destination-port boolean
+ hash-seed number
+ ipv6-flow-label boolean
+ mpls-label-stack boolean
+ protocol boolean
+ source-address boolean
+ source-port boolean
+ vlan boolean
+ logging
+ buffer buffer-name string
+ facility facility-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ filter reference
+ format string
+ persist number
+ rotate number
- rotations number
+ size string
+ subsystem subsystem-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ console
+ facility facility-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ filter reference
+ format string
+ subsystem subsystem-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ file file-name string
+ directory string
+ facility facility-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ filter reference
+ format string
+ rotate number
- rotations number
+ size string
+ subsystem subsystem-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ filter filter-name string
+ contains string
+ facility facility-name keyword
+ priority
+ match-above keyword
+ match-exact keyword
+ prefix string
+ regex string
+ tag string
+ network-instance reference
+ remote-server host (ipv4-address | ipv6-address | domain-name)
+ facility facility-name keyword
+ priority
+ match-above keyword

```

```

    + match-exact keyword
+ filter reference
+ remote-port number
+ subsystem subsystem-name keyword
  + priority
    + match-above keyword
    + match-exact keyword
  + transport keyword
+ subsystem-facility keyword
+ maintenance
+ group name string
+ maintenance-mode
  + admin-state keyword
+ maintenance-profile reference
+ members
  + bgp
    + network-instance name reference
    + neighbor reference
    + peer-group reference
+ profile name string
  + bgp
    + export-policy reference
    + import-policy reference
+ management
+ openconfig
  + admin-state keyword
  - oper-state keyword
+ mirroring
+ mirroring-instance name string
+ admin-state keyword
+ description string
+ mirror-destination
  + local string
  + remote
    + encap keyword
    + network-instance reference
  + tunnel-end-points
    + admin-state keyword
    + dst-ipv4 string
    + dst-ipv6 string
    - oper-state keyword
    + src-ipv4 string
    + src-ipv6 string
+ mirror-source
+ acl
  + ipv4-filter name reference
  + entry sequence-id reference
  + ipv6-filter name reference
  + entry sequence-id reference
+ interface name string
  + direction keyword
+ subinterface name string
  + direction keyword
- oper-down-reason keyword
- oper-state keyword
+ mpls
+ label-ranges
+ dynamic name string
  - allocated-labels number
+ end-label number
  - free-labels number
+ start-label number
  - status keyword
  - user index number

```



```

    - protocol identityref
  + static name string
    - allocated-labels number
  + end-label number
  - free-labels number
  + shared boolean
  + start-label number
  - status keyword
  - user index number
  - protocol identityref
+ services
+ mtu
+ default-ip-mtu number
+ default-l2-mtu number
+ default-mpls-mtu number
+ default-port-mtu number
+ min-path-mtu number
+ multicast
+ multicast-ids
  - statistics
    - current-usage number
    - maximum-ids number
    - multicast-id-user-type user keyword
    - current-usage number
    - total-pending number
    - total-pending number
- multicast-forwarding-information-base
  - multicast-route network-instance reference source (ipv4-address | ipv6-
address) group (ipv4-address | ipv6-address)
    - last-update string
    - line-card-replication-index number
+ name
+ domain-name string
+ host-name string
+ network-instance
+ protocols
  + bgp-vpn
    + bgp-instance id number
    - oper-down-reason keyword
    + route-distinguisher
      - rd (route-distinguisher-type-0 | route-distinguisher-type-1 | route-
distinguisher-type-2 | route-distinguisher-type-2b)
      - route-distinguisher-origin keyword
    + route-target
      - export-route-target-origin keyword
      - export-rt (string | string | string | string | string | string | string |
string | string | string)
      - import-route-target-origin keyword
      - import-rt (string | string | string | string | string | string | string |
string | string | string)
    + evpn
      + ethernet-segments
        + bgp-instance id reference
        + ethernet-segment name string
        + admin-state keyword
        - association
          - network-instance name string
          - bgp-instance instance number
          - computed-designated-forwarder-candidates
            - designated-forwarder-candidate address (ipv4-address | ipv6-
address)
          - add-time string
          - designated-forwarder boolean
          - designated-forwarder-activation-start-time string

```

```

- designated-forwarder-activation-time number
- designated-forwarder-role-last-change string
- autodiscovery-per-ethernet-segment-routes
- attr-id reference
- esi string
- ethernet-tag-id number
- neighbor (ipv4-address | ipv6-address)
- route-distinguisher (route-distinguisher-type-0 | route-distinguisher-
type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)
- vni number
+ df-election
+ algorithm
+ manual-alg
+ primary-evi-range start-evi number
+ end-evi number
- oper-type keyword
+ preference-alg
+ capabilities
+ ac-df keyword
+ non-revertive boolean
- oper-do-not-preempt boolean
- oper-preference-value number
+ preference-value number
+ type keyword
+ interface-standby-signaling-on-non-df
+ timers
+ activation-timer number
+ esi string
- ethernet-segment-routes
- attr-id reference
- esi string
- neighbor (ipv4-address | ipv6-address)
- originating-router (ipv4-address | ipv6-address)
- route-distinguisher (route-distinguisher-type-0 | route-distinguisher-
type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)
+ interface ethernet-interface reference
+ multi-homing-mode keyword
+ next-hop l3-next-hop (ipv4-address | ipv6-address)
+ evi start number
- oper-down-reason keyword
- oper-esi string
- oper-multi-homing-mode keyword
- oper-state keyword
+ routes
+ ethernet-segment
+ originating-ip keyword
+ next-hop keyword
+ type keyword
+ timers
+ activation-timer number
- boot-remaining-time number
- boot-start-time string
+ boot-timer number
+ ntp
+ admin-state keyword
+ network-instance reference
- oper-state keyword
+ server address (ipv4-address | ipv6-address)
+ iburst boolean
- jitter number
- offset number
- poll-interval number
+ prefer boolean
- stratum number

```

```

- synchronized (ipv4-address | ipv6-address | string)
+ p4rt-server
+ admin-state keyword
- client id number
  - election-id string
  - forwarding-complex
    - id number
    - location string
  - primary boolean
  - remote-host (ipv4-address | ipv6-address)
  - remote-port number
  - start-time string
  - user string
  - user-agent string
+ network-instance name reference
+ admin-state keyword
- oper-state keyword
+ port number
+ source-address (ipv4-address | ipv6-address)
+ tls-profile reference
+ use-authentication boolean
+ rate-limit number
+ session-limit number
+ timeout number
+ trace-options keyword
+ unix-socket
+ admin-state keyword
- oper-state keyword
- socket-path string
+ tls-profile reference
+ use-authentication boolean
+ ra-guard-policy name string
+ action keyword
+ advertise-prefix-set reference
+ hop-limit number
+ managed-config-flag boolean
+ other-config-flag boolean
+ router-preference keyword
+ source-prefix-set reference
+ sflow
+ admin-state keyword
+ collector collector-id number
+ collector-address (ipv4-address | ipv6-address)
+ network-instance reference
- next-hop (ipv4-address | ipv6-address)
+ port number
+ source-address (ipv4-address | ipv6-address)
+ sample-rate number
+ sample-size number
+ source-address (ipv4-address | ipv6-address)
- statistics
  - total-offered-packets number
  - total-samples-taken number
  - total-sent-packets number
+ snmp
+ community string
+ network-instance name reference
+ admin-state keyword
- oper-state keyword
+ source-address (ipv4-address | ipv6-address)
+ ssh-server
+ network-instance name reference
+ admin-state keyword
- oper-state keyword

```

```
- protocol-version number
+ rate-limit number
+ source-address (ipv4-address | ipv6-address)
+ timeout number
+ tls
+ server-profile name string
+ authenticate-client boolean
+ certificate string
+ cipher-list identityref
+ key string
+ trust-anchor string
+ trace-options keyword
+ warm-reboot
+ bgp-max-wait number
```

## 10.1 system Descriptions

### system

<b>Description</b>	Enclosing container for system management
<b>Context</b>	<a href="#">system</a>
<b>Tree</b>	<a href="#">system</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### aaa

<b>Description</b>	Top-level container for AAA services
<b>Context</b>	<a href="#">system aaa</a>
<b>Tree</b>	<a href="#">aaa</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### accounting

<b>Description</b>	Top-level container for accounting
<b>Context</b>	<a href="#">system aaa accounting</a>
<b>Tree</b>	<a href="#">accounting</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### accounting-method *reference*

<b>Description</b>	Ordered list of server-groups to use for accounting in the system If accounting fails with one method, the next defined method is tried -- failure of all methods results in the accounting request failing.
<b>Context</b>	<a href="#">system aaa accounting accounting-method <i>reference</i></a>
<b>Tree</b>	<a href="#">accounting-method</a>
<b>Reference</b>	<a href="#">system aaa server-group name <i>string</i></a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **event** *event-type identityref*

**Description** List of events subject to accounting  
**Context** [system aaa accounting event event-type identityref](#)  
**Tree** [event](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### **event-type** *identityref*

**Description** The type of activity to record at the accounting server  
**Context** [system aaa accounting event event-type identityref](#)  
**Options**

- **command**  
Specifies interactive command events for AAA accounting

**Configurable** True  
**Platforms** Supported on all platforms

### **record** *identityref*

**Description** Type of record to send to the accounting server for this activity type  
**Context** [system aaa accounting event event-type identityref record identityref](#)  
**Tree** [record](#)  
**Options**

- **start-stop**  
Send start and stop records for user activities  
A start record is sent to the accounting server at the beginning of the activity, and a stop record at the end of the activity
- **stop**  
Send only stop records for user activities  
A stop record is sent to the accounting server when the user activity completes

**Configurable** True  
**Platforms** Supported on all platforms

**authentication**

<b>Description</b>	Top-level container for global authentication data
<b>Context</b>	<a href="#">system aaa authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-user**

<b>Description</b>	Enclosing container for admin user
<b>Context</b>	<a href="#">system aaa authentication admin-user</a>
<b>Tree</b>	<a href="#">admin-user</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**failed-login-attempts** *number*

<b>Description</b>	Number of failed login attempts from the user
<b>Context</b>	<a href="#">system aaa authentication admin-user failed-login-attempts</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-login-attempts</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-failed-login** *string*

<b>Description</b>	The date and time of the last login failure from this user
<b>Context</b>	<a href="#">system aaa authentication admin-user last-failed-login</a> <i>string</i>
<b>Tree</b>	<a href="#">last-failed-login</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-successful-login** *string*

<b>Description</b>	The date and time of the last successful login from this user
--------------------	---

---

<b>Context</b>	<a href="#">system aaa authentication admin-user last-successful-login</a> <i>string</i>
<b>Tree</b>	<a href="#">last-successful-login</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## lockout

<b>Description</b>	Information relating to the lockout state of this user
<b>Context</b>	<a href="#">system aaa authentication admin-user lockout</a>
<b>Tree</b>	<a href="#">lockout</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## active *boolean*

<b>Description</b>	Indicates if a lockout is active for the user  Lockouts can occur after successive failed logins, and can be cleared by 'tools system aaa authentication user <username> unlock'
<b>Context</b>	<a href="#">system aaa authentication admin-user lockout active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## end *string*

<b>Description</b>	Indicates the time at which the most recent lockout for this user ended or will end
<b>Context</b>	<a href="#">system aaa authentication admin-user lockout end</a> <i>string</i>
<b>Tree</b>	<a href="#">end</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**start** *string*

<b>Description</b>	Indicates the time at which the most recent lockout for this user started
<b>Context</b>	<a href="#">system aaa authentication admin-user lockout start</a> <i>string</i>
<b>Tree</b>	<a href="#">start</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**password** *string*

<b>Description</b>	The admin password, supplied either as cleartext or as a hashed value If provided as cleartext, the system will hash the value on input, storing only the hashed value. If provided as a hashed value, the value should include any '\$' characters, for example '\$ar2\$aOvsuj0ALIU=\$r750fMa3ZEA/Di8dIfU2fQ=='. If provided as a hashed value, the value should include any '\$' characters, for example '\$ar2\$aOvsuj0ALIU=\$r750fMa3ZEA/Di8dIfU2fQ=='.
<b>Context</b>	<a href="#">system aaa authentication admin-user password</a> <i>string</i>
<b>Tree</b>	<a href="#">password</a>
<b>Default</b>	\$ar2\$aOvsuj0ALIU=\$r750fMa3ZEA/Di8dIfU2fQ==
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**password-change-required** *boolean*

<b>Description</b>	Indicates if the user must change their password on next login
<b>Context</b>	<a href="#">system aaa authentication admin-user password-change-required</a> <i>boolean</i>
<b>Tree</b>	<a href="#">password-change-required</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**username** *string*

<b>Description</b>	Assigned username for admin user
<b>Context</b>	<a href="#">system aaa authentication admin-user username</a> <i>string</i>
<b>Tree</b>	<a href="#">username</a>
<b>Default</b>	admin
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **authentication-method** *reference*

**Description** Ordered list of server-groups to be used during user authentication  
If authentication fails with one method, the next defined method is tried -- failure of all methods results in the user being denied access.

**Context** [system aaa authentication authentication-method reference](#)

**Tree** [authentication-method](#)

**Reference** [system aaa server-group name string](#)

**Configurable** True

**Platforms** Supported on all platforms

### **exit-on-reject** *boolean*

**Description** Enable/disable exit-on-reject behaviour for authentication attempts  
With this behaviour enabled, when a reject is received from any server the system will not try further methods, and will reject the user authentication attempt. Default behaviour is to continue trying methods until one accepts the user, or the system runs out of methods to try.

**Context** [system aaa authentication exit-on-reject boolean](#)

**Tree** [exit-on-reject](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

### **idle-timeout** *number*

**Description** Set the idle timeout of all CLI sessions  
After the timeout is reached, the session is disconnected from the system.

**Context** [system aaa authentication idle-timeout number](#)

**Tree** [idle-timeout](#)

**Default** 600

**Units** seconds

**Configurable** True

**Platforms** Supported on all platforms

**linuxadmin-user**

<b>Description</b>	Enclosing container for linuxadmin user
<b>Context</b>	<a href="#">system aaa authentication linuxadmin-user</a>
<b>Tree</b>	<a href="#">linuxadmin-user</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**password *string***

<b>Description</b>	The linuxadmin password, supplied either as cleartext or as a hashed value If provided as cleartext, the system will hash the value on input, storing only the hashed value. If provided as a hashed value, the value should include any '\$' characters, for example '\$6\$c66a15569d3f5952\$kA2WPt9iqR5uMbaCUBNxsjKyXROQFdJtV1HX0CFY9wk7F326/yB3h.dERX9cH7YpeJ1N872hjzTb2tlaZFwwg0'.
<b>Context</b>	<a href="#">system aaa authentication linuxadmin-user password <i>string</i></a>
<b>Tree</b>	<a href="#">password</a>
<b>Default</b>	\$6\$c66a15569d3f5952\$kA2WPt9iqR5uMbaCUBNxsjKyXROQFdJtV1HX0CFY9wk7F326/yB3h.dERX9cH7YpeJ1N872hjzTb2tlaZFwwg0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**username *string***

<b>Description</b>	Assigned username for linuxadmin user
<b>Context</b>	<a href="#">system aaa authentication linuxadmin-user username <i>string</i></a>
<b>Tree</b>	<a href="#">username</a>
<b>Default</b>	linuxadmin
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**password**

<b>Description</b>	Top-level container for policies around user passwords
<b>Context</b>	<a href="#">system aaa authentication password</a>
<b>Tree</b>	<a href="#">password</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**aging** *number*

<b>Description</b>	Expire user passwords after this period A value of 0 means that the user passwords do not expire
<b>Context</b>	<a href="#">system aaa authentication password aging number</a>
<b>Tree</b>	<a href="#">aging</a>
<b>Range</b>	0 to 500
<b>Default</b>	0
<b>Units</b>	days
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**change-on-first-login** *boolean*

<b>Description</b>	Enable or disable a user being forced to change their password on first time login
<b>Context</b>	<a href="#">system aaa authentication password change-on-first-login boolean</a>
<b>Tree</b>	<a href="#">change-on-first-login</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**complexity-rules**

<b>Description</b>	Top-level container for password complexity rules
<b>Context</b>	<a href="#">system aaa authentication password complexity-rules</a>
<b>Tree</b>	<a href="#">complexity-rules</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**allow-username** *boolean*

<b>Description</b>	Enable or disable using username as part of the user password
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<b>Context</b>	<a href="#">system aaa authentication password complexity-rules allow-username</a> <i>boolean</i>
<b>Tree</b>	<a href="#">allow-username</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### maximum-length *number*

<b>Description</b>	The maximum length of the password for local users, including admin and linuxadmin
<b>Context</b>	<a href="#">system aaa authentication password complexity-rules maximum-length</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-length</a>
<b>Range</b>	1 to 1023
<b>Default</b>	1023
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### minimum-length *number*

<b>Description</b>	The minimum length of the password for local users, including admin and linuxadmin
<b>Context</b>	<a href="#">system aaa authentication password complexity-rules minimum-length</a> <i>number</i>
<b>Tree</b>	<a href="#">minimum-length</a>
<b>Range</b>	1 to 12
<b>Default</b>	1
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### minimum-lowercase *number*

<b>Description</b>	The minimum lowercase characters from (a-z) that the user password must include  A value of 0 results in no minimum-lowercase being enforced.
<b>Context</b>	<a href="#">system aaa authentication password complexity-rules minimum-lowercase</a> <i>number</i>

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<b>Tree</b>	<a href="#">minimum-lowercase</a>
<b>Range</b>	0 to 10
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **minimum-numeric *number***

<b>Description</b>	The minimum numeric digits that the user password must include A value of 0 results in no minimum-numeric being enforced.
<b>Context</b>	<a href="#">system aaa authentication password complexity-rules minimum-numeric number</a>
<b>Tree</b>	<a href="#">minimum-numeric</a>
<b>Range</b>	0 to 10
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **minimum-special-character *number***

<b>Description</b>	The minimum special characters that the user password must include A value of 0 results in no minimum-special-character being enforced.
<b>Context</b>	<a href="#">system aaa authentication password complexity-rules minimum-special-character number</a>
<b>Tree</b>	<a href="#">minimum-special-character</a>
<b>Range</b>	0 to 10
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **minimum-uppercase *number***

<b>Description</b>	The minimum uppercase characters from (A-Z) that the user password must include A value of 0 results in no minimum-uppercase being enforced.
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<b>Context</b>	<a href="#">system aaa authentication password complexity-rules minimum-uppercase number</a>
<b>Tree</b>	<a href="#">minimum-uppercase</a>
<b>Range</b>	0 to 10
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **history number**

<b>Description</b>	Defines how many previous passwords a new password is matched against, such that a new password can't be one of the previous n passwords
<b>Context</b>	<a href="#">system aaa authentication password history number</a>
<b>Tree</b>	<a href="#">history</a>
<b>Range</b>	0 to 20
<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **lockout-policy**

<b>Description</b>	Top-level container for lockout policy
<b>Context</b>	<a href="#">system aaa authentication password lockout-policy</a>
<b>Tree</b>	<a href="#">lockout-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **attempts number**

<b>Description</b>	The number of failed login attempts that will lock the account A value of 0 means unlimited number of failed login attempts is allowed
<b>Context</b>	<a href="#">system aaa authentication password lockout-policy attempts number</a>
<b>Tree</b>	<a href="#">attempts</a>
<b>Range</b>	0 to 64
<b>Default</b>	0
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **lockout** *number*

**Description** The time duration in minutes the user account will be locked out  
A value of 0 means that the user account will be locked out/disabled indefinitely

**Context** [system aaa authentication password lockout-policy lockout number](#)

**Tree** [lockout](#)

**Range** 0 to 1440

**Default** 15

**Units** minutes

**Configurable** True

**Platforms** Supported on all platforms

### **time** *number*

**Description** The time period in minutes within which the failed login attempts occur

**Context** [system aaa authentication password lockout-policy time number](#)

**Tree** [time](#)

**Range** 0 to 1440

**Default** 1

**Units** minutes

**Configurable** True

**Platforms** Supported on all platforms

### **session id** *number*

**Description** List of active sessions in the system

**Context** [system aaa authentication session id number](#)

**Tree** [session](#)

**Configurable** False

**Platforms** Supported on all platforms



**id number**

<b>Description</b>	System generated session ID
<b>Context</b>	<a href="#">system aaa authentication session id number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**authentication-method string**

<b>Description</b>	Authentication method that authorized the user (the server-group name or local)
<b>Context</b>	<a href="#">system aaa authentication session id number authentication-method string</a>
<b>Tree</b>	<a href="#">authentication-method</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**login-time string**

<b>Description</b>	Time the user logged in
<b>Context</b>	<a href="#">system aaa authentication session id number login-time string</a>
<b>Tree</b>	<a href="#">login-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**priv-lvl number**

<b>Description</b>	TACACS+ authorization priv-lvl (if TACACS+ authorization is enabled)
<b>Context</b>	<a href="#">system aaa authentication session id number priv-lvl number</a>
<b>Tree</b>	<a href="#">priv-lvl</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remote-host string**

<b>Description</b>	Remote host of the session
<b>Context</b>	<a href="#">system aaa authentication session id number remote-host string</a>

<b>Tree</b>	<a href="#">remote-host</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**service-name** *string*

<b>Description</b>	Service name that called login for the session
<b>Context</b>	<a href="#">system aaa authentication session id number service-name</a> <i>string</i>
<b>Tree</b>	<a href="#">service-name</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tty-name** *string*

<b>Description</b>	Terminal type
<b>Context</b>	<a href="#">system aaa authentication session id number tty-name</a> <i>string</i>
<b>Tree</b>	<a href="#">tty-name</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**username** *string*

<b>Description</b>	Username linked to the session
<b>Context</b>	<a href="#">system aaa authentication session id number username</a> <i>string</i>
<b>Tree</b>	<a href="#">username</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**user** [username](#) *string*

<b>Description</b>	List of local users configured on the system
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i>
<b>Tree</b>	<a href="#">user</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	128

**username** *string*

<b>Description</b>	Assigned username for this user
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i>
<b>String Length</b>	1 to 32
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**failed-login-attempts** *number*

<b>Description</b>	Number of failed login attempts from the user
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">failed-login-attempts</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-login-attempts</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-failed-login** *string*

<b>Description</b>	The date and time of the last login failure from this user
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">last-failed-login</a> <i>string</i>
<b>Tree</b>	<a href="#">last-failed-login</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-successful-login** *string*

<b>Description</b>	The date and time of the last successful login from this user
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">last-successful-login</a> <i>string</i>
<b>Tree</b>	<a href="#">last-successful-login</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**lockout**

<b>Description</b>	Information relating to the lockout state of this user
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">lockout</a>
<b>Tree</b>	<a href="#">lockout</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active *boolean***

<b>Description</b>	Indicates if a lockout is active for the user  Lockouts can occur after successive failed logins, and can be cleared by 'tools system aaa authentication user <username> unlock'
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">lockout</a> <a href="#">active</a> <i>boolean</i>
<b>Tree</b>	<a href="#">active</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**end *string***

<b>Description</b>	Indicates the time at which the most recent lockout for this user ended or will end
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">lockout</a> <a href="#">end</a> <i>string</i>
<b>Tree</b>	<a href="#">end</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**start *string***

<b>Description</b>	Indicates the time at which the most recent lockout for this user started
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">lockout</a> <a href="#">start</a> <i>string</i>
<b>Tree</b>	<a href="#">start</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**password** *string*

<b>Description</b>	The user password, supplied either as cleartext or as a hashed value If provided as cleartext, the system will hash the value on input, storing only the hashed value. If provided as a hashed value, the value should include any '\$' characters, for example '\$ar2\$aOvsuj0ALIU=\$r750fMa3ZEA/Di8dIfU2fQ=='.
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string password string</i>
<b>Tree</b>	<a href="#">password</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**password-change-required** *boolean*

<b>Description</b>	Indicates if the user must change their password on next login
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string password-change-required boolean</i>
<b>Tree</b>	<a href="#">password-change-required</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**role** *reference*

<b>Description</b>	List of roles to assign to this user The most specific rule for a particular role takes precedence. Rules from all user roles are evaluated together, most permissive privilege taking precedence.
<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string role reference</i>
<b>Tree</b>	<a href="#">role</a>
<b>Reference</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**ssh-key** *string*

<b>Description</b>	SSH public key(s) for the user (RSA)
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If defined, the user may login to the system over SSH with this key. This field includes the 'ssh-rsa' leader, as would normally be found in a SSH key.

<b>Context</b>	<a href="#">system aaa authentication user username</a> <i>string</i> <a href="#">ssh-key</a> <i>string</i>
<b>Tree</b>	<a href="#">ssh-key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

## authorization

<b>Description</b>	Top-level container for authorization configuration and operational state data
<b>Context</b>	<a href="#">system aaa authorization</a>
<b>Tree</b>	<a href="#">authorization</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## role [rolename](#) *string*

<b>Description</b>	List of local roles configured on the system
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i>
<b>Tree</b>	<a href="#">role</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## rolename *string*

<b>Description</b>	Assigned rolename for this role
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i>
<b>String Length</b>	1 to 32
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## cli

<b>Description</b>	Top-level container for cli plugin configuration
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i> <a href="#">cli</a>

<b>Tree</b>	<a href="#">cli</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **allow-command-list** *string*

<b>Description</b>	List of cli commands the are allowed for this role  Python style regular expressions are supported. Every item is left anchored (it matches from the beginning of line). Empty allow-command-list means anything that is not in deny-command-list is allowed. If both lists are empty then everything is allowed.
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i> <a href="#">cli allow-command-list</a> <i>string</i>
<b>Tree</b>	<a href="#">allow-command-list</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	100

### **deny-command-list** *string*

<b>Description</b>	List of cli commands the are denied for this role  Python style regular expressions are supported. Every item is left anchored (it matches from the beginning of line). Empty deny-command-list means anything that is not in allow-command-list is denied. If both lists are empty then everything is allowed.
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i> <a href="#">cli deny-command-list</a> <i>string</i>
<b>Tree</b>	<a href="#">deny-command-list</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	100

**load-global-plugins** *boolean*

<b>Description</b>	Specifies whether cli should load plugins from global plugin directory (from /etc/opt/srlinux/cli/plugins/).
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string cli load-global-plugins boolean</i>
<b>Tree</b>	<a href="#">load-global-plugins</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**load-user-plugins** *boolean*

<b>Description</b>	Specifies whether cli should load plugins from user home directory (from ~/cli/plugins/).
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string cli load-user-plugins boolean</i>
<b>Tree</b>	<a href="#">load-user-plugins</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**services** *keyword*

<b>Description</b>	Services that members of this role are authorized for Services are additive, if a user is a member of multiple roles, the available services are merged.
<b>Context</b>	<a href="#">system aaa authorization role rolename</a> <i>string services keyword</i>
<b>Tree</b>	<a href="#">services</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• cli</li> <li>• gnmi</li> <li>• gribi</li> <li>• p4rt</li> <li>• json-rpc</li> <li>• ftp</li> </ul>
<b>Configurable</b>	True



**Platforms** Supported on all platforms

## **tacacs**

**Description** Top-level container for configuration relating to TACACS+ interworking with roles

**Context** [system aaa authorization role rolename string tacacs](#)

**Tree** [tacacs](#)

**Configurable** True

**Platforms** Supported on all platforms

## **priv-lvl number**

**Description** The TACACS+ priv-lvl to map to this role  
All roles matching each specific priv-lvl, and their lessers are merged together to create the final ruleset applied to the user.

**Context** [system aaa authorization role rolename string tacacs priv-lvl number](#)

**Tree** [priv-lvl](#)

**Range** 0 to 15

**Configurable** True

**Platforms** Supported on all platforms

## **server-group name string**

**Description** List of AAA server-groups in the system  
Each server group specifies a type, of which all servers must use. If using the 'local' type, then no servers may be specified.

**Context** [system aaa server-group name string](#)

**Tree** [server-group](#)

**Configurable** True

**Platforms** Supported on all platforms

**Max. Elements** 3

## **name string**

**Description** User defined name for the server group

**Context** [system aaa server-group name string](#)

<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **priv-lvl-authorization** *boolean*

<b>Description</b>	Use TACACS+ priv-lvl based authorization If false, then authorization is skipped for TACACS+ users granting full admin access for those users.
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">priv-lvl-authorization</a> <i>boolean</i>
<b>Tree</b>	<a href="#">priv-lvl-authorization</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **server** [address](#) (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of AAA servers to use within this server-group Servers are tried in a round-robin fashion, with the first server always being tried if it is operationally available
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	5

### **address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Address used to reach the server
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	User defined name assigned to the server
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">name</a> <i>string</i>
<b>Tree</b>	<a href="#">name</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance** *reference*

<b>Description</b>	Reference to a configured network-instance used for reachability to the server  This network-instance must already exist in the system, and different servers within the same server-group may use difference network-instances for connectivity.
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	Details the operational state of the server  A server is defined as being down if it fails to respond before the timeout period, or if a path towards the server is not available.
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> </ul>

- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**radius****Description**

Top-level container for RADIUS server data

**Context**[system aaa server-group name string server address \(ipv4-address | ipv6-address\) radius](#)**Tree**[radius](#)**Configurable**

True

**Platforms**

Supported on all platforms

**acct-port** *number*

<b>Description</b>	Port number for accounting requests
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">radius acct-port</a> <i>number</i>
<b>Tree</b>	<a href="#">acct-port</a>
<b>Range</b>	0 to 65535
<b>Default</b>	1813
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**auth-port** *number*

<b>Description</b>	Port number for authentication requests
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">radius auth-port</a> <i>number</i>
<b>Tree</b>	<a href="#">auth-port</a>
<b>Range</b>	0 to 65535
<b>Default</b>	1812
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**retransmit-attempts** *number*

<b>Description</b>	Number of times the system may resend a request to the RADIUS server when it is unresponsive
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">radius retransmit-attempts</a> <i>number</i>
<b>Tree</b>	<a href="#">retransmit-attempts</a>
<b>Default</b>	3
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**secret-key** *string*

<b>Description</b>	The unencrypted shared key used between the authentication server and the device.
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<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">radius secret-key</a> <i>string</i>
<b>Tree</b>	<a href="#">secret-key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enclosing container for server statistics
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## accounting-connection-failures *number*

<b>Description</b>	Number of accounting connection failures
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">statistics</a> <a href="#">accounting-connection-failures</a> <i>number</i>
<b>Tree</b>	<a href="#">accounting-connection-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## accounting-rejects *number*

<b>Description</b>	Number of accounting rejections
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">statistics</a> <a href="#">accounting-rejects</a> <i>number</i>
<b>Tree</b>	<a href="#">accounting-rejects</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**accounting-success** *number*

<b>Description</b>	Number of accounting successes
<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address)</a> <a href="#">statistics accounting-success number</a>
<b>Tree</b>	<a href="#">accounting-success</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**authorization-connection-failures** *number*

<b>Description</b>	Number of authorization connection failures
<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address)</a> <a href="#">statistics authorization-connection-failures number</a>
<b>Tree</b>	<a href="#">authorization-connection-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**authorization-rejects** *number*

<b>Description</b>	Number of authorization rejections
<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address)</a> <a href="#">statistics authorization-rejects number</a>
<b>Tree</b>	<a href="#">authorization-rejects</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**authorization-success** *number*

<b>Description</b>	Number of authorization successes
<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address)</a> <a href="#">statistics authorization-success number</a>
<b>Tree</b>	<a href="#">authorization-success</a>
<b>Default</b>	0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **login-connection-failures** *number*

<b>Description</b>	Number of login connection failures
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">statistics login-connection-failures</a> <i>number</i>
<b>Tree</b>	<a href="#">login-connection-failures</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **login-rejects** *number*

<b>Description</b>	Number of login rejections
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">statistics login-rejects</a> <i>number</i>
<b>Tree</b>	<a href="#">login-rejects</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **login-success** *number*

<b>Description</b>	Number of login successes
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">statistics login-success</a> <i>number</i>
<b>Tree</b>	<a href="#">login-success</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## **tacacs**

<b>Description</b>	Top-level container for TACACS+ server data
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<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address) tacacs</a>
<b>Tree</b>	<a href="#">tacacs</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**port number**

<b>Description</b>	The port number on which to contact the TACACS+ server
<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address) tacacs port number</a>
<b>Tree</b>	<a href="#">port</a>
<b>Range</b>	0 to 65535
<b>Default</b>	49
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**secret-key string**

<b>Description</b>	The unencrypted shared key used between the system and server
<b>Context</b>	<a href="#">system aaa server-group name string server address (ipv4-address   ipv6-address) tacacs secret-key string</a>
<b>Tree</b>	<a href="#">secret-key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**timeout number**

<b>Description</b>	Set the timeout in seconds on responses from servers in this group
<b>Context</b>	<a href="#">system aaa server-group name string timeout number</a>
<b>Tree</b>	<a href="#">timeout</a>
<b>Range</b>	1 to 3600
<b>Default</b>	10
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type** *identityref*

<b>Description</b>	AAA server type -- all servers in the group must be of this type
<b>Context</b>	<a href="#">system aaa server-group name</a> <i>string</i> <a href="#">type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• tacacs Specifies servers using the TACACS+ protocol Terminal Access Controller Access Control System (TACACS+)</li> <li>• radius Specifies servers using RADIUS protocol Remote Authentication Dial In User Service (RADIUS) AAA server</li> <li>• local Specifies using Linux local methods This type cannot be combined with a server address</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**app-management**

<b>Description</b>	Top-level container for application configuration and state
<b>Context</b>	<a href="#">system app-management</a>
<b>Tree</b>	<a href="#">app-management</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**application** [name](#) *string*

<b>Description</b>	List of all applications managed by the application manager
<b>Context</b>	<a href="#">system app-management</a> <a href="#">application name</a> <i>string</i>
<b>Tree</b>	<a href="#">application</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Unique name of this application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**author** *string*

<b>Description</b>	The author of the application
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">author</a> <i>string</i>
<b>Tree</b>	<a href="#">author</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**cgroup** *string*

<b>Description</b>	Cgroup in with this application is started
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">cgroup</a> <i>string</i>
<b>Tree</b>	<a href="#">cgroup</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-action** *string*

<b>Description</b>	The action taken after 'failure-threshold' failures within 'failure-window' This action can be to reboot the system, wait forever, or wait for a predefined number of seconds
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">failure-action</a> <i>string</i>
<b>Tree</b>	<a href="#">failure-action</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failure-threshold** *number*

<b>Description</b>	How many restarts within 'failure-window' are required to trigger the failure action
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Setting this value to 0 will result in no action taking place on application restarts

<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">failure-threshold</a> <i>number</i>
<b>Tree</b>	<a href="#">failure-threshold</a>
<b>Range</b>	0 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **failure-window** *number*

<b>Description</b>	Sliding window in seconds, over which to count restarts towards failure-threshold
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">failure-window</a> <i>number</i>
<b>Tree</b>	<a href="#">failure-window</a>
<b>Range</b>	300 to 86400
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-change** *string*

<b>Description</b>	Date and time the application instance last changed state
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">last-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **last-start-type** *keyword*

<b>Description</b>	Indicates the type of the most recent start or restart of this application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">last-start-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">last-start-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>warm</li> </ul> <p>A warm start indicates that the application will leave state in IDB during a restart, and recover it post restart</p>

This type results in less disruption to surrounding applications and functionality.

- cold

A cold start indicates that the application will not leave state in IDB during a restart

This type is equivalent to a normal application restart, i.e. one where the application's state is purged from the system during the restart, and recreated after.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### launch-command *string*

<b>Description</b>	The command used to launch the application
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">launch-command</a> <i>string</i>
<b>Tree</b>	<a href="#">launch-command</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### oom-score-adj *number*

<b>Description</b>	OOM score adj value set for this application
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">oom-score-adj</a> <i>number</i>
<b>Tree</b>	<a href="#">oom-score-adj</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### path *string*

<b>Description</b>	The directory where the application can be found
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">path</a> <i>string</i>
<b>Tree</b>	<a href="#">path</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pid number**

<b>Description</b>	Process ID of this application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">pid number</a>
<b>Tree</b>	<a href="#">pid</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**restricted-operations keyword**

<b>Description</b>	The operations that may not be manually performed on this application
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">restricted-operations keyword</a>
<b>Tree</b>	<a href="#">restricted-operations</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• restart This application may not be restarted manually</li> <li>• stop This application may not be stopped manually</li> <li>• start This application may not be started manually</li> <li>• reload This application may not be reloaded manually</li> <li>• quit This application may not be terminated manually</li> <li>• kill This application may not be terminated ungracefully manually</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**search-command string**

<b>Description</b>	The command used to search for the applications liveness
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">search-command string</a>
<b>Tree</b>	<a href="#">search-command</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**state keyword**

<b>Description</b>	Current state of this application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string state keyword</i>
<b>Tree</b>	<a href="#">state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>running</b> Application instance is running This is the normal, active state of an application</li> <li>• <b>waiting-for-config</b> Application instance is loaded, but has no configuration This state requires wait-for-config true within the applications YAML configuration. This results in the application being loaded into app-mgr, but not starting until the system receives configuration for it</li> <li>• <b>error</b> The application has not started successfully, or has failed This state can be caused by an application hitting the restart backoff, or an application failing to start following triggering a system reboot</li> <li>• <b>starting</b> The application has been asked to start All applications enter this state after initial execution, after which application manager will wait five seconds before checking their status. IDB connected applications may announce their state before this five second window has passed, resulting in them transitioning from this state faster than PID-monitored applications.</li> <li>• <b>stopped</b> The application is not running This state is most likely caused by an operator action</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Top-level container for application statistics
<b>Context</b>	<a href="#">system app-management application name</a> <i>string statistics</i>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**restart-count** *number*

<b>Description</b>	The number of times this application instance has restarted
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">statistics restart-count</a> <i>number</i>
<b>Tree</b>	<a href="#">restart-count</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**supported-restart-types** *keyword*

<b>Description</b>	Indicates the supported restart types for this application
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">supported-restart-types</a> <i>keyword</i>
<b>Tree</b>	<a href="#">supported-restart-types</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• warm A warm start indicates that the application will leave state in IDB during a restart, and recover it post restart This type results in less disruption to surrounding applications and functionality.</li> <li>• cold A cold start indicates that the application will not leave state in IDB during a restart This type is equivalent to a normal application restart, i.e. one where the application's state is purged from the system during the restart, and recreated after.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**version** *string*

<b>Description</b>	The version of the application
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">version</a> <i>string</i>
<b>Tree</b>	<a href="#">version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



## yang

<b>Description</b>	Top-level container for application state related to YANG
<b>Context</b>	<a href="#">system app-management application name</a> <i>string yang</i>
<b>Tree</b>	<a href="#">yang</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## modules *string*

<b>Description</b>	YANG module names used by this application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string yang modules</i> <i>string</i>
<b>Tree</b>	<a href="#">modules</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## source-directories *string*

<b>Description</b>	Source directories searched for YANG modules to load These directories are used to load modules indicated in the modules leaf, and any modules imported/included within them
<b>Context</b>	<a href="#">system app-management application name</a> <i>string yang source-directories</i> <i>string</i>
<b>Tree</b>	<a href="#">source-directories</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## authentication

<b>Description</b>	Container for protocol authentication options available system wide
<b>Context</b>	<a href="#">system authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**keychain name** *string*

<b>Description</b>	List of system keychains
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>Tree</b>	<a href="#">keychain</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1024

**name** *string*

<b>Description</b>	The user configured name for the keychain
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**active-key-for-send** (*keyword | reference*)

<b>Description</b>	Provides the key index of the currently active Keychain key
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">active-key-for-send</a> ( <i>keyword   reference</i> )
<b>Tree</b>	<a href="#">active-key-for-send</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none No send key is usable</li> </ul>
<b>Reference</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">key index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	<p>When set to disable, the keychain is inactive</p> <p>When a protocol refers to a keychain that is inactive, no authentication data is added to the outbound messages and/or all inbound messages with authentication data are dropped, depending on the context.</p> <p>A keychain is operationally disabled in a particular direction (send/receive) if:</p>
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">admin-state</a> <i>keyword</i>

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<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**description** *string*

<b>Description</b>	The user configured description for the keychain
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**expired** *boolean*

<b>Description</b>	The value of this object indicates whether the keychain is expired Expired can mean past end-time or prior to start-time.
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">expired</a> <i>boolean</i>
<b>Tree</b>	<a href="#">expired</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**key** *index number*

<b>Description</b>	List of keys in the keychain
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">key</a> <i>index number</i>
<b>Tree</b>	<a href="#">key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**index number**

<b>Description</b>	Each key in a keychain requires a unique identifier, the index value specifies this identifier
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">key index number</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**algorithm keyword**

<b>Description</b>	The cryptographic algorithm used with the keying material to secure the messages
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string</i> <a href="#">key index number</a> <a href="#">algorithm keyword</a>
<b>Tree</b>	<a href="#">algorithm</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• cleartext The authentication-key is encoded in plaintext</li> <li>• md5 The authentication-key is used to generate an MD5 digest (RFC 1321)</li> <li>• hmac-md5 The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104)</li> <li>• hmac-sha-1 The authentication-key is used to generate a SHA1 digest using the HMAC algorithm (RFC 2104)</li> <li>• hmac-sha-256 The authentication-key is used to generate a SHA2 digest using the HMAC algorithm (RFC 2104) The SHA-256 variant of SHA2 produces an output of 32 bytes (256 bits)</li> <li>• aes-128-cmac The authentication-key is used with the AES-128 encryption algorithm to generate a cipher MAC (RFC 4493)</li> <li>• aes-256-cmac The authentication-key is used with the AES-256 encryption algorithm to generate a cipher MAC (RFC 4493).</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authentication-key string**

<b>Description</b>	<p>The secret key</p> <p>The maximum string length is 32 characters, of which a maximum of 20 characters is the secret data and the remaining 5 characters, if provided, must be ' hash' (i.e. one whitespace plus the word hash). The trailing 'hash' keyword indicates that the secret data was already encrypted and this is the display version of that secret data, which is a hash of the original data. If the 'hash' keyword is omitted the string is assumed to be the actual secret data. Whenever the value of authentication-key is read by any management interface, from any datastore (candidate, running, state) the return value is always the encrypted value – i.e. with the trailing ' hash' characters included.</p>
<b>Context</b>	<a href="#">system authentication keychain name string key index number authentication-key string</a>
<b>Tree</b>	<a href="#">authentication-key</a>
<b>String Length</b>	1 to 32
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type keyword**

<b>Description</b>	<p>Specifies the intended use of the keychain</p> <p>The type constrains the set of crypto algorithms that are available to use with each key in the keychain. It is also used to ensure that this keychain is only used by protocols for which it is intended.</p>
<b>Context</b>	<a href="#">system authentication keychain name string type keyword</a>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• tcp-md5 Keychain intended to be used for TCP-MD5 authentication</li> <li>• isis Keychain intended to be used for authentication of IS-IS PDUs</li> <li>• ospf Keychain intended to be used for authentication of OSPFv2 messages</li> <li>• tcp-ao Keychain intended to be used for TCP-AO authentication</li> <li>• vrrp Keychain intended to be used for authentication of VRRPv2 messages</li> <li>• macsec Keychain intended to be used for key wrapping of SAK in a mka messages.</li> </ul>

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<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**usable** *boolean*

<b>Description</b>	The value of this object indicates if the keychain is usable for authentication
<b>Context</b>	<a href="#">system authentication keychain name</a> <i>string usable boolean</i>
<b>Tree</b>	<a href="#">usable</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**banner**

<b>Description</b>	Contains configuration and state related to system banners
<b>Context</b>	<a href="#">system banner</a>
<b>Tree</b>	<a href="#">banner</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**login-banner** *string*

<b>Description</b>	Banner to display before a user has authenticated
<b>Context</b>	<a href="#">system banner login-banner</a> <i>string</i>
<b>Tree</b>	<a href="#">login-banner</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**motd-banner** *string*

<b>Description</b>	Banner to display after a user has authenticated
<b>Context</b>	<a href="#">system banner motd-banner</a> <i>string</i>
<b>Tree</b>	<a href="#">motd-banner</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**boot**

<b>Description</b>	Top-level container for configuration and state data related to booting the system
<b>Context</b>	<a href="#">system boot</a>
<b>Tree</b>	<a href="#">boot</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**autoboot**

<b>Description</b>	Top-level container for configuration and state data related to autobooting the system
<b>Context</b>	<a href="#">system boot autoboot</a>
<b>Tree</b>	<a href="#">autoboot</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable autoboot functionality
<b>Context</b>	<a href="#">system boot autoboot admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**attempts** *number*

<b>Description</b>	Sets the amount of executions to try autoboot, before rebooting the system
<b>Context</b>	<a href="#">system boot autoboot attempts</a> <i>number</i>
<b>Tree</b>	<a href="#">attempts</a>
<b>Range</b>	1 to 10
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**client-id** *keyword*

<b>Description</b>	The client ID to use on outgoing DHCP requests
<b>Context</b>	<a href="#">system boot autoboot client-id</a> <i>keyword</i>
<b>Tree</b>	<a href="#">client-id</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>serial Use the chassis serial number as the client ID</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface** *reference*

<b>Description</b>	Sets the interface to use for autoboot functionality
<b>Context</b>	<a href="#">system boot autoboot interface</a> <i>reference</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Default</b>	mgmt0
<b>Reference</b>	<a href="#">interface name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mode** *string*

<b>Description</b>	Ztp operation modes. One or more modes can passed
<b>Context</b>	<a href="#">system boot autoboot mode</a> <i>string</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-state** *string*

<b>Description</b>	The current operational status of the autoboot process
<b>Context</b>	<a href="#">system boot autoboot oper-state</a> <i>string</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**timeout** *number*

<b>Description</b>	Sets the timeout for each attempt to autoboot
<b>Context</b>	<a href="#">system boot autoboot timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">timeout</a>
<b>Range</b>	200 to 3600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**golden-image** *string*

<b>Description</b>	The local image the system reverts to when a factory reset operation is requested  The value is the folder that contains the initramfs, kernel, and squashfs image. The search path for these directories is /mnt/nokiaos/<folder>
<b>Context</b>	<a href="#">system boot golden-image</a> <i>string</i>
<b>Tree</b>	<a href="#">golden-image</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**image** *string*

<b>Description</b>	Ordered list of local images used to boot the system  This directly translates into boot configuration in grub, where the images are tried in the order specified by the user. Images are sourced via the internal SD card, and the value passed is the folder that contains the initramfs, kernel, and squashfs image. The search path for these directories is /mnt/nokiaos/<folder>
<b>Context</b>	<a href="#">system boot image</a> <i>string</i>
<b>Tree</b>	<a href="#">image</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	3

**bridge-table**

<b>Description</b>	system bridge-table information
<b>Context</b>	<a href="#">system bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac-learning**

<b>Description</b>	Enter the mac-learning context
<b>Context</b>	<a href="#">system bridge-table mac-learning</a>
<b>Tree</b>	<a href="#">mac-learning</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac-relearn-only** *boolean*

<b>Description</b>	The value of this leaf indicates that the system will not learn any new mac addresses, but will relearn any that are already programmed
<b>Context</b>	<a href="#">system bridge-table mac-learning mac-relearn-only boolean</a>
<b>Tree</b>	<a href="#">mac-relearn-only</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**mac-limit**

<b>Description</b>	Bridge Table size and thresholds.
<b>Context</b>	<a href="#">system bridge-table mac-limit</a>
<b>Tree</b>	<a href="#">mac-limit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**maximum-entries** *number*

<b>Description</b>	Maximum number of mac addresses allowed in the system bridge-table.
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<b>Context</b>	<a href="#">system bridge-table mac-limit maximum-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">maximum-entries</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **warning-threshold-pct** *number*

<b>Description</b>	Percentage of the configured max-number-macs over which a warning is triggered. The warning message is cleared when the percentage drops below the configured percentage minus 5%
<b>Context</b>	<a href="#">system bridge-table mac-limit warning-threshold-pct</a> <i>number</i>
<b>Tree</b>	<a href="#">warning-threshold-pct</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **proxy-arp**

<b>Description</b>	system bridge-table proxy ARP entry information
<b>Context</b>	<a href="#">system bridge-table proxy-arp</a>
<b>Tree</b>	<a href="#">proxy-arp</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **active-entries** *number*

<b>Description</b>	The total number of active proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **in-active-entries** *number*

<b>Description</b>	The total number of inactive proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **neighbor-origin** [origin](#) *keyword*

<b>Description</b>	the origin of the proxy entry installed in the table.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics neighbor-origin</a> <a href="#">origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">neighbor-origin</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **origin** *keyword*

<b>Description</b>	Enter the origin context
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics neighbor-origin</a> <a href="#">origin</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> <li>• duplicate</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **active-entries** *number*

<b>Description</b>	The total number of active proxy entries.
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<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword active-entries number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-active-entries** *number*

<b>Description</b>	The total number of inactive proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword in-active-entries number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pending-entries** *number*

<b>Description</b>	The total number of pending proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword pending-entries number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-entries** *number*

<b>Description</b>	The total number of proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics neighbor-origin origin</a> <i>keyword total-entries number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pending-entries** *number*

<b>Description</b>	The total number of pending proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics pending-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-entries** *number*

<b>Description</b>	The total number of proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-arp statistics total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**proxy-nd**

<b>Description</b>	system bridge-table proxy ND entry information
<b>Context</b>	<a href="#">system bridge-table proxy-nd</a>
<b>Tree</b>	<a href="#">proxy-nd</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-entries** *number*

<b>Description</b>	The total number of active proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-active-entries** *number*

<b>Description</b>	The total number of inactive proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**neighbor-origin** [origin](#) *keyword*

<b>Description</b>	the origin of the proxy entry installed in the table.
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics neighbor-origin origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">neighbor-origin</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**origin** *keyword*

<b>Description</b>	Enter the origin context
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics neighbor-origin origin</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• dynamic</li> <li>• evpn</li> <li>• duplicate</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-entries** *number*

<b>Description</b>	The total number of active proxy entries.
<b>Context</b>	<a href="#">system</a> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**in-active-entries** *number*

<b>Description</b>	The total number of inactive proxy entries.
<b>Context</b>	<a href="#">system</a> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">in-active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">in-active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pending-entries** *number*

<b>Description</b>	The total number of pending proxy entries.
<b>Context</b>	<a href="#">system</a> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">pending-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-entries** *number*

<b>Description</b>	The total number of proxy entries.
<b>Context</b>	<a href="#">system</a> <a href="#">bridge-table</a> <a href="#">proxy-nd</a> <a href="#">statistics</a> <a href="#">neighbor-origin</a> <a href="#">origin</a> <i>keyword</i> <a href="#">total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0



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<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**pending-entries** *number*

<b>Description</b>	The total number of pending proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics pending-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">pending-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-entries** *number*

<b>Description</b>	The total number of proxy entries.
<b>Context</b>	<a href="#">system bridge-table proxy-nd statistics total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system bridge-table statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**active-entries** *number*

<b>Description</b>	The total number of macs that are active on the system.
<b>Context</b>	<a href="#">system bridge-table statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **failed-entries** *number*

**Description** The total number of macs, which have not been programmed on atleast one slot

**Context** [system bridge-table statistics failed-entries number](#)

**Tree** [failed-entries](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **mac-type** *type keyword*

**Description** the type of the mac in the system.

**Context** [system bridge-table statistics mac-type type keyword](#)

**Tree** [mac-type](#)

**Configurable** False

**Platforms** Supported on all platforms

### **type** *keyword*

**Description** Enter the type context

**Context** [system bridge-table statistics mac-type type keyword](#)

**Options**

- static
- duplicate
- learnt
- irb-interface
- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

**Configurable** False

**Platforms** Supported on all platforms

**active-entries** *number*

<b>Description</b>	The total number of macs of this type on the system.
<b>Context</b>	<a href="#">system bridge-table statistics mac-type type keyword active-entries number</a>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**failed-entries** *number*

<b>Description</b>	The total number of macs of this type, which have not been programmed on atleast one slot
<b>Context</b>	<a href="#">system bridge-table statistics mac-type type keyword failed-entries number</a>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-entries** *number*

<b>Description</b>	The total number of macs of this type , active and inactive, on the system.
<b>Context</b>	<a href="#">system bridge-table statistics mac-type type keyword total-entries number</a>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-entries** *number*

<b>Description</b>	The total number of macs, active and inactive, on the system.
<b>Context</b>	<a href="#">system bridge-table statistics total-entries number</a>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## clock

<b>Description</b>	Top-level container for system clock configuration and state
<b>Context</b>	<a href="#">system clock</a>
<b>Tree</b>	<a href="#">clock</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## timezone *keyword*

<b>Description</b>	The timezone to use for the system Based on IANAs Time Zone database
<b>Context</b>	<a href="#">system clock timezone keyword</a>
<b>Tree</b>	<a href="#">timezone</a>
<b>Options</b>	<ul style="list-style-type: none"><li>• Africa/Abidjan</li><li>• Africa/Accra</li><li>• Africa/Addis_Ababa</li><li>• Africa/Algiers</li><li>• Africa/Asmara</li><li>• Africa/Bamako</li><li>• Africa/Bangui</li><li>• Africa/Banjul</li><li>• Africa/Bissau</li><li>• Africa/Blantyre</li><li>• Africa/Brazzaville</li><li>• Africa/Bujumbura</li><li>• Africa/Cairo</li><li>• Africa/Casablanca</li><li>• Africa/Ceuta Ceuta, Melilla</li><li>• Africa/Conakry</li><li>• Africa/Dakar</li><li>• Africa/Dar_es_Salaam</li><li>• Africa/Djibouti</li><li>• Africa/Douala</li><li>• Africa/El_Aaiun</li><li>• Africa/Freetown</li></ul>

- 
- Africa/Gaborone
  - Africa/Harare
  - Africa/Johannesburg
  - Africa/Juba
  - Africa/Kampala
  - Africa/Khartoum
  - Africa/Kigali
  - Africa/Kinshasa  
Dem. Rep. of Congo (west)
  - Africa/Lagos
  - Africa/Libreville
  - Africa/Lome
  - Africa/Luanda
  - Africa/Lubumbashi  
Dem. Rep. of Congo (east)
  - Africa/Lusaka
  - Africa/Malabo
  - Africa/Maputo
  - Africa/Maseru
  - Africa/Mbabane
  - Africa/Mogadishu
  - Africa/Monrovia
  - Africa/Nairobi
  - Africa/Ndjamena
  - Africa/Niamey
  - Africa/Nouakchott
  - Africa/Ouagadougou
  - Africa/Porto-Novo
  - Africa/Sao\_Tome
  - Africa/Tripoli
  - Africa/Tunis
  - Africa/Windhoek
  - America/Adak  
Aleutian Islands
  - America/Anchorage  
Alaska (most areas)

- America/Anguilla
- America/Antigua
- America/Araguaina  
Tocantins
- America/Argentina/Buenos\_Aires  
Buenos Aires (BA, CF)
- America/Argentina/Catamarca  
Catamarca (CT); Chubut (CH)
- America/Argentina/Cordoba  
Argentina (most areas: CB, CC, CN, ER, FM, MN, SE, SF)
- America/Argentina/Jujuy  
Jujuy (JY)
- America/Argentina/La\_Rioja  
La Rioja (LR)
- America/Argentina/Mendoza  
Mendoza (MZ)
- America/Argentina/Rio\_Gallegos  
Santa Cruz (SC)
- America/Argentina/Salta  
Salta (SA, LP, NQ, RN)
- America/Argentina/San\_Juan  
San Juan (SJ)
- America/Argentina/San\_Luis  
San Luis (SL)
- America/Argentina/Tucuman  
Tucuman (TM)
- America/Argentina/Ushuaia  
Tierra del Fuego (TF)
- America/Aruba
- America/Asuncion
- America/Atikokan  
EST - ON (Atikokan); NU (Coral H)
- America/Bahia  
Bahia
- America/Bahia\_Banderas  
Central Time - Bahia de Banderas

- 
- America/Barbados
  - America/Belem  
Para (east); Amapa
  - America/Belize
  - America/Blanc-Sablon  
AST - QC (Lower North Shore)
  - America/Boa\_Vista  
Roraima
  - America/Bogota
  - America/Boise  
Mountain - ID (south); OR (east)
  - America/Cambridge\_Bay  
Mountain - NU (west)
  - America/Campo\_Grande  
Mato Grosso do Sul
  - America/Cancun  
Eastern Standard Time - Quintana Roo
  - America/Caracas
  - America/Cayenne
  - America/Cayman
  - America/Chicago  
Central (most areas)
  - America/Chihuahua  
Mountain Time - Chihuahua (most areas)
  - America/Costa\_Rica
  - America/Creston  
MST - BC (Creston)
  - America/Cuiaba  
Mato Grosso
  - America/Curacao
  - America/Danmarkshavn  
National Park (east coast)
  - America/Dawson  
Pacific - Yukon (north)
  - America/Dawson\_Creek  
MST - BC (Dawson Cr, Ft St John)

- America/Denver  
Mountain (most areas)
- America/Detroit  
Eastern - MI (most areas)
- America/Dominica
- America/Edmonton  
Mountain - AB; BC (E); SK (W)
- America/Eirunepe  
Amazonas (west)
- America/El\_Salvador
- America/Fort\_Nelson  
MST - BC (Ft Nelson)
- America/Fortaleza  
Brazil (northeast: MA, PI, CE, RN, PB)
- America/Glace\_Bay  
Atlantic - NS (Cape Breton)
- America/Godthab  
Greenland (most areas)
- America/Goose\_Bay  
Atlantic - Labrador (most areas)
- America/Grand\_Turk
- America/Grenada
- America/Guadeloupe
- America/Guatemala
- America/Guayaquil  
Ecuador (mainland)
- America/Guyana
- America/Halifax  
Atlantic - NS (most areas); PE
- America/Havana
- America/Hermosillo  
Mountain Standard Time - Sonora
- America/Indiana/Indianapolis  
Eastern - IN (most areas)
- America/Indiana/Knox  
Central - IN (Starke)



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- America/Indiana/Marengo  
Eastern - IN (Crawford)
  - America/Indiana/Petersburg  
Eastern - IN (Pike)
  - America/Indiana/Tell\_City  
Central - IN (Perry)
  - America/Indiana/Vevay  
Eastern - IN (Switzerland)
  - America/Indiana/Vincennes  
Eastern - IN (Da, Du, K, Mn)
  - America/Indiana/Winamac  
Eastern - IN (Pulaski)
  - America/Inuvik  
Mountain - NT (west)
  - America/Iqaluit  
Eastern - NU (most east areas)
  - America/Jamaica
  - America/Juneau  
Alaska - Juneau area
  - America/Kentucky/Louisville  
Eastern - KY (Louisville area)
  - America/Kentucky/Monticello  
Eastern - KY (Wayne)
  - America/Kralendijk
  - America/La\_Paz
  - America/Lima
  - America/Los\_Angeles  
Pacific
  - America/Lower\_Princes
  - America/Maceio  
Alagoas, Sergipe
  - America/Managua
  - America/Manaus  
Amazonas (east)
  - America/Marigot
  - America/Martinique

- America/Matamoros  
Central Time US - Coahuila, Nuevo Leon, Tamaulipas (US border)
- America/Mazatlan  
Mountain Time - Baja California Sur, Nayarit, Sinaloa
- America/Menominee  
Central - MI (Wisconsin border)
- America/Merida  
Central Time - Campeche, Yucatan
- America/Metlakatla  
Alaska - Annette Island
- America/Mexico\_City  
Central Time
- America/Miquelon
- America/Moncton  
Atlantic - New Brunswick
- America/Monterrey  
Central Time - Durango; Coahuila, Nuevo Leon, Tamaulipas (most areas)
- America/Montevideo
- America/Montserrat
- America/Nassau
- America/New\_York  
Eastern (most areas)
- America/Nipigon  
Eastern - ON, QC (no DST 1967-73)
- America/Nome  
Alaska (west)
- America/Noronha  
Atlantic islands
- America/North\_Dakota/Beulah  
Central - ND (Mercer)
- America/North\_Dakota/Center  
Central - ND (Oliver)
- America/North\_Dakota/New\_Salem  
Central - ND (Morton rural)
- America/Ojinaga  
Mountain Time US - Chihuahua (US border)

- America/Panama
- America/Pangnirtung  
Eastern - NU (Pangnirtung)
- America/Paramaribo
- America/Phoenix  
MST - Arizona (except Navajo)
- America/Port-au-Prince
- America/Port\_of\_Spain
- America/Porto\_Velho  
Rondonia
- America/Puerto\_Rico
- America/Punta\_Arenas  
Region of Magallanes
- America/Rainy\_River  
Central - ON (Rainy R, Ft Frances)
- America/Rankin\_Inlet  
Central - NU (central)
- America/Recife  
Pernambuco
- America/Regina  
CST - SK (most areas)
- America/Resolute  
Central - NU (Resolute)
- America/Rio\_Branco  
Acre
- America/Santarem  
Para (west)
- America/Santiago  
Chile (most areas)
- America/Santo\_Domingo
- America/Sao\_Paulo  
Brazil (southeast: GO, DF, MG, ES, RJ, SP, PR, SC, RS)
- America/Scoresbysund  
Scoresbysund/Ittoqqortoormiit
- America/Sitka  
Alaska - Sitka area

- America/St\_Barthelemy
- America/St\_Johns  
Newfoundland; Labrador (southeast)
- America/St\_Kitts
- America/St\_Lucia
- America/St\_Thomas
- America/St\_Vincent
- America/Swift\_Current  
CST - SK (midwest)
- America/Tegucigalpa
- America/Thule  
Thule/Pituffik
- America/Thunder\_Bay  
Eastern - ON (Thunder Bay)
- America/Tijuana  
Pacific Time US - Baja California
- America/Toronto  
Eastern - ON, QC (most areas)
- America/Tortola
- America/Vancouver  
Pacific - BC (most areas)
- America/Whitehorse  
Pacific - Yukon (south)
- America/Winnipeg  
Central - ON (west); Manitoba
- America/Yakutat  
Alaska - Yakutat
- America/Yellowknife  
Mountain - NT (central)
- Antarctica/Casey  
Casey
- Antarctica/Davis  
Davis
- Antarctica/DumontDUrville  
Dumont-d'Urville
- Antarctica/Macquarie

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- Macquarie Island
  - Antarctica/Mawson  
Mawson
  - Antarctica/McMurdo  
New Zealand time - McMurdo, South Pole
  - Antarctica/Palmer  
Palmer
  - Antarctica/Rothera  
Rothera
  - Antarctica/Syowa  
Syowa
  - Antarctica/Troll  
Troll
  - Antarctica/Vostok  
Vostok
  - Arctic/Longyearbyen
  - Asia/Aden
  - Asia/Almaty  
Kazakhstan (most areas)
  - Asia/Amman
  - Asia/Anadyr  
MSK+09 - Bering Sea
  - Asia/Aqtau  
Mangghystau/Mankistau
  - Asia/Aqtobe  
Aqtobe/Aktobe
  - Asia/Ashgabat
  - Asia/Atyrau  
Atyrau/Atirau/Gur'yev
  - Asia/Baghdad
  - Asia/Bahrain
  - Asia/Baku
  - Asia/Bangkok
  - Asia/Barnaul  
MSK+04 - Altai
  - Asia/Beirut

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- Asia/Bishkek
  - Asia/Brunei
  - Asia/Chita  
MSK+06 - Zabaykalsky
  - Asia/Choibalsan  
Dornod, Sukhbaatar
  - Asia/Colombo
  - Asia/Damascus
  - Asia/Dhaka
  - Asia/Dili
  - Asia/Dubai
  - Asia/Dushanbe
  - Asia/Famagusta  
Northern Cyprus
  - Asia/Gaza  
Gaza Strip
  - Asia/Hebron  
West Bank
  - Asia/Ho\_Chi\_Minh
  - Asia/Hong\_Kong
  - Asia/Hovd  
Bayan-Olgii, Govi-Altai, Hovd, Uvs, Zavkhan
  - Asia/Irkutsk  
MSK+05 - Irkutsk, Buryatia
  - Asia/Jakarta  
Java, Sumatra
  - Asia/Jayapura  
New Guinea (West Papua / Irian Jaya); Maluku/Moluccas
  - Asia/Jerusalem
  - Asia/Kabul
  - Asia/Kamchatka  
MSK+09 - Kamchatka
  - Asia/Karachi
  - Asia/Kathmandu
  - Asia/Khandyga  
MSK+06 - Tomponsky, Ust-Maysky

- Asia/Kolkata
- Asia/Krasnoyarsk  
MSK+04 - Krasnoyarsk area
- Asia/Kuala\_Lumpur  
Malaysia (peninsula)
- Asia/Kuching  
Sabah, Sarawak
- Asia/Kuwait
- Asia/Macau
- Asia/Magadan  
MSK+08 - Magadan
- Asia/Makassar  
Borneo (east, south); Sulawesi/Celebes, Bali, Nusa Tenggara; Timor (west)
- Asia/Manila
- Asia/Muscat
- Asia/Nicosia  
Cyprus (most areas)
- Asia/Novokuznetsk  
MSK+04 - Kemerovo
- Asia/Novosibirsk  
MSK+04 - Novosibirsk
- Asia/Omsk  
MSK+03 - Omsk
- Asia/Oral  
West Kazakhstan
- Asia/Phnom\_Penh
- Asia/Pontianak  
Borneo (west, central)
- Asia/Pyongyang
- Asia/Qatar
- Asia/Qostanay  
Qostanay/Kostanay/Kustanay
- Asia/Qyzylorda  
Qyzylorda/Kyzylorda/Kzyl-Orda
- Asia/Riyadh
- Asia/Sakhalin

- MSK+08 - Sakhalin Island
    - Asia/SamarkandUzbekistan (west)
  - Asia/Seoul
  - Asia/Shanghai
- Beijing Time
- Asia/Singapore
  - Asia/Srednekolymsk
- MSK+08 - Sakha (E); North Kuril Is
- Asia/Taipei
  - Asia/Tashkent
- Uzbekistan (east)
- Asia/Tbilisi
  - Asia/Tehran
  - Asia/Thimphu
  - Asia/Tokyo
  - Asia/Tomsk
- MSK+04 - Tomsk
- Asia/Ulaanbaatar
- Mongolia (most areas)
- Asia/Urumqi
- Xinjiang Time
- Asia/Ust-Nera
- MSK+07 - Oymyakonsky
- Asia/Vientiane
  - Asia/Vladivostok
- MSK+07 - Amur River
- Asia/Yakutsk
- MSK+06 - Lena River
- Asia/Yangon
  - Asia/Yekaterinburg
- MSK+02 - Urals
- Asia/Yerevan
- Atlantic/Azores
- Azores
- Atlantic/Bermuda



- 
- Atlantic/Canary  
Canary Islands
  - Atlantic/Cape\_Verde
  - Atlantic/Faroe
  - Atlantic/Madeira  
Madeira Islands
  - Atlantic/Reykjavik
  - Atlantic/South\_Georgia
  - Atlantic/St\_Helena
  - Atlantic/Stanley
  - Australia/Adelaide  
South Australia
  - Australia/Brisbane  
Queensland (most areas)
  - Australia/Broken\_Hill  
New South Wales (Yancowinna)
  - Australia/Currie  
Tasmania (King Island)
  - Australia/Darwin  
Northern Territory
  - Australia/Eucla  
Western Australia (Eucla)
  - Australia/Hobart  
Tasmania (most areas)
  - Australia/Lindeman  
Queensland (Whitsunday Islands)
  - Australia/Lord\_Howe  
Lord Howe Island
  - Australia/Melbourne  
Victoria
  - Australia/Perth  
Western Australia (most areas)
  - Australia/Sydney  
New South Wales (most areas)
  - Europe/Amsterdam
  - Europe/Andorra

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- Europe/Astrakhan  
MSK+01 - Astrakhan
  - Europe/Athens
  - Europe/Belgrade
  - Europe/Berlin  
Germany (most areas)
  - Europe/Bratislava
  - Europe/Brussels
  - Europe/Bucharest
  - Europe/Budapest
  - Europe/Busingen  
Busingen
  - Europe/Chisinau
  - Europe/Copenhagen
  - Europe/Dublin
  - Europe/Gibraltar
  - Europe/Guernsey
  - Europe/Helsinki
  - Europe/Isle\_of\_Man
  - Europe/Istanbul
  - Europe/Jersey
  - Europe/Kaliningrad  
MSK-01 - Kaliningrad
  - Europe/Kiev  
Ukraine (most areas)
  - Europe/Kirov  
MSK+00 - Kirov
  - Europe/Lisbon  
Portugal (mainland)
  - Europe/Ljubljana
  - Europe/London
  - Europe/Luxembourg
  - Europe/Madrid  
Spain (mainland)
  - Europe/Malta
  - Europe/Mariehamn

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- Europe/Minsk
  - Europe/Monaco
  - Europe/Moscow  
MSK+00 - Moscow area
  - Europe/Oslo
  - Europe/Paris
  - Europe/Podgorica
  - Europe/Prague
  - Europe/Riga
  - Europe/Rome
  - Europe/Samara  
MSK+01 - Samara, Udmurtia
  - Europe/San\_Marino
  - Europe/Sarajevo
  - Europe/Saratov  
MSK+01 - Saratov
  - Europe/Simferopol  
MSK+00 - Crimea
  - Europe/Skopje
  - Europe/Sofia
  - Europe/Stockholm
  - Europe/Tallinn
  - Europe/Tirane
  - Europe/Ulyanovsk  
MSK+01 - Ulyanovsk
  - Europe/Uzhgorod  
Ruthenia
  - Europe/Vaduz
  - Europe/Vatican
  - Europe/Vienna
  - Europe/Vilnius
  - Europe/Volgograd  
MSK+01 - Volgograd
  - Europe/Warsaw
  - Europe/Zagreb
  - Europe/Zaporozhye

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Zaporozh'ye/Zaporizhia; Lugansk/Luhansk (east)

- Europe/Zurich
- Indian/Antananarivo
- Indian/Chagos
- Indian/Christmas
- Indian/Cocos
- Indian/Comoro
- Indian/Kerguelen
- Indian/Mahe
- Indian/Maldives
- Indian/Mauritius
- Indian/Mayotte
- Indian/Reunion
- Pacific/Apia
- Pacific/Auckland
- New Zealand (most areas)
- Pacific/Bougainville
- Bougainville
- Pacific/Chatham
- Chatham Islands
- Pacific/Chuuk
- Chuuk/Truk, Yap
- Pacific/Easter
- Easter Island
- Pacific/Efate
- Pacific/Enderbury
- Phoenix Islands
- Pacific/Fakaofu
- Pacific/Fiji
- Pacific/Funafuti
- Pacific/Galapagos
- Galapagos Islands
- Pacific/Gambier
- Gambier Islands
- Pacific/Guadalcanal
- Pacific/Guam

- 
- Pacific/Honolulu  
Hawaii
  - Pacific/Kiritimati  
Line Islands
  - Pacific/Kosrae  
Kosrae
  - Pacific/Kwajalein  
Kwajalein
  - Pacific/Majuro  
Marshall Islands (most areas)
  - Pacific/Marquesas  
Marquesas Islands
  - Pacific/Midway  
Midway Islands
  - Pacific/Nauru
  - Pacific/Niue
  - Pacific/Norfolk
  - Pacific/Noumea
  - Pacific/Pago\_Pago
  - Pacific/Palau
  - Pacific/Pitcairn
  - Pacific/Pohnpei  
Pohnpei/Ponape
  - Pacific/Port\_Moresby  
Papua New Guinea (most areas)
  - Pacific/Rarotonga
  - Pacific/Saipan
  - Pacific/Tahiti  
Society Islands
  - Pacific/Tarawa  
Gilbert Islands
  - Pacific/Tongatapu
  - Pacific/Wake  
Wake Island
  - Pacific/Wallis
  - UTC

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## configuration

<b>Description</b>	Top-level container for configuration and state data related to the system configuration
<b>Context</b>	<a href="#">system configuration</a>
<b>Tree</b>	<a href="#">configuration</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## auto-checkpoint *boolean*

<b>Description</b>	Configuration checkpoint will be automatically created after every successful commit (if set to true).
<b>Context</b>	<a href="#">system configuration auto-checkpoint <i>boolean</i></a>
<b>Tree</b>	<a href="#">auto-checkpoint</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## candidate *name string*

<b>Description</b>	List of configuration candidates currently active
<b>Context</b>	<a href="#">system configuration candidate <i>name string</i></a>
<b>Tree</b>	<a href="#">candidate</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## name *string*

<b>Description</b>	Name of the configuration candidate
<b>Context</b>	<a href="#">system configuration candidate <i>name string</i></a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **started** *string*

**Description** Start date and time of the configuration session  
**Context** [system configuration candidate name](#) *string* **started** *string*  
**Tree** [started](#)  
**String Length** 20 to 32  
**Configurable** False  
**Platforms** Supported on all platforms

### **type** *keyword*

**Description** Type of configuration candidate  
**Context** [system configuration candidate name](#) *string* **type** *keyword*  
**Tree** [type](#)  
**Options**

- shared
- private

**Configurable** False  
**Platforms** Supported on all platforms

### **username** *string*

**Description** User that started the configuration session  
**Context** [system configuration candidate name](#) *string* **username** *string*  
**Tree** [username](#)  
**String Length** 1 to 255  
**Configurable** False  
**Platforms** Supported on all platforms

### **checkpoint id** *number*

**Description** List of current checkpoints present in the system  
**Context** [system configuration checkpoint id](#) *number*  
**Tree** [checkpoint](#)

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<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id** *number*

<b>Description</b>	System generated ID for the checkpoint
<b>Context</b>	<a href="#">system configuration checkpoint id number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**comment** *string*

<b>Description</b>	User provided annotations associated with the checkpoint
<b>Context</b>	<a href="#">system configuration checkpoint id number comment string</a>
<b>Tree</b>	<a href="#">comment</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**created** *string*

<b>Description</b>	Date and time this checkpoint was created
<b>Context</b>	<a href="#">system configuration checkpoint id number created string</a>
<b>Tree</b>	<a href="#">created</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	User provided name of the checkpoint
<b>Context</b>	<a href="#">system configuration checkpoint id number name string</a>
<b>Tree</b>	<a href="#">name</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**size** *number*

<b>Description</b>	Size of the checkpoint configuration file
<b>Context</b>	<a href="#">system configuration checkpoint id</a> <i>number</i> <a href="#">size</a> <i>number</i>
<b>Tree</b>	<a href="#">size</a>
<b>Units</b>	bytes
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tag** *string*

<b>Description</b>	Full system version that the checkpoint was generated on
<b>Context</b>	<a href="#">system configuration checkpoint id</a> <i>number</i> <a href="#">tag</a> <i>string</i>
<b>Tree</b>	<a href="#">tag</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**username** *string*

<b>Description</b>	Username that created this checkpoint
<b>Context</b>	<a href="#">system configuration checkpoint id</a> <i>number</i> <a href="#">username</a> <i>string</i>
<b>Tree</b>	<a href="#">username</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**version** *string*

<b>Description</b>	System version that the checkpoint was generated on
<b>Context</b>	<a href="#">system configuration checkpoint id</a> <i>number</i> <a href="#">version</a> <i>string</i>
<b>Tree</b>	<a href="#">version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**commit** *id number*

<b>Description</b>	List of configuration transactions
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<b>Context</b>	<a href="#">system configuration commit id number</a>
<b>Tree</b>	<a href="#">commit</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id number**

<b>Description</b>	System identifier for the commit
<b>Context</b>	<a href="#">system configuration commit id number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**comment string**

<b>Description</b>	Operator provided comment associated with this commit
<b>Context</b>	<a href="#">system configuration commit id number comment string</a>
<b>Tree</b>	<a href="#">comment</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ended string**

<b>Description</b>	End date and time of the commit This field is not populated if the commit is in progress
<b>Context</b>	<a href="#">system configuration commit id number ended string</a>
<b>Tree</b>	<a href="#">ended</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name string**

<b>Description</b>	Name of the configuration candidate the commit was triggered from
<b>Context</b>	<a href="#">system configuration commit id number name string</a>
<b>Tree</b>	<a href="#">name</a>
<b>String Length</b>	1 to 255

---

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**started** *string*

<b>Description</b>	Start date and time of the commit
<b>Context</b>	<a href="#">system configuration commit id</a> <i>number</i> <a href="#">started</a> <i>string</i>
<b>Tree</b>	<a href="#">started</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**status** *keyword*

<b>Description</b>	Current status of the commit
<b>Context</b>	<a href="#">system configuration commit id</a> <i>number</i> <a href="#">status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• validating</li> <li>• publishing</li> <li>• unconfirmed</li> <li>• checkpoint</li> <li>• save</li> <li>• complete</li> <li>• reverting</li> <li>• failed</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	Type of configuration candidate the commit was triggered from
<b>Context</b>	<a href="#">system configuration commit id</a> <i>number</i> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• shared</li> <li>• private</li> </ul>

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<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**username** *string*

<b>Description</b>	User that started the commit
<b>Context</b>	<a href="#">system configuration commit id</a> <i>number</i> <a href="#">username</a> <i>string</i>
<b>Tree</b>	<a href="#">username</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**idle-timeout** *number*

<b>Description</b>	The idle timeout of configuration candidates After this period of no activity, the candidate is emptied and removed from the system.
<b>Context</b>	<a href="#">system configuration idle-timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">idle-timeout</a>
<b>Default</b>	10080
<b>Units</b>	minutes
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**last-change** *string*

<b>Description</b>	Date and time of the last successful commit Set to the time the configuration was loaded by management server, so is refreshed at boot time.
<b>Context</b>	<a href="#">system configuration last-change</a> <i>string</i>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**max-candidates** *number*

<b>Description</b>	The maximum number of combined private and shared candidates
<b>Context</b>	<a href="#">system configuration max-candidates</a> <i>number</i>
<b>Tree</b>	<a href="#">max-candidates</a>
<b>Range</b>	1 to 255
<b>Default</b>	10
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**max-checkpoints** *number*

<b>Description</b>	The number of checkpoints kept by the system
<b>Context</b>	<a href="#">system configuration max-checkpoints</a> <i>number</i>
<b>Tree</b>	<a href="#">max-checkpoints</a>
<b>Range</b>	1 to 255
<b>Default</b>	10
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**role** *name reference*

<b>Description</b>	List of roles configured in the system
<b>Context</b>	<a href="#">system configuration role name</a> <i>reference</i>
<b>Tree</b>	<a href="#">role</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**name** *reference*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">system configuration role name</a> <i>reference</i>
<b>Reference</b>	<a href="#">system aaa authorization role rolename</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rule** *path-reference string*

<b>Description</b>	List of paths to perform access control against
<b>Context</b>	<a href="#">system configuration role name</a> <i>reference rule path-reference string</i>
<b>Tree</b>	<a href="#">rule</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	256

**path-reference** *string*

<b>Description</b>	Reference to a valid YANG path, in CLI notation This path may include keys, wildcards, ranges, and other management server supported constructs. Ranges will be expanded. The root path can be specified with '/'. E.g. / "/interface" "/acl ipv4-filter foo* description"
<b>Context</b>	<a href="#">system configuration role name</a> <i>reference rule path-reference string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**action** *keyword*

<b>Description</b>	Action to allow for this path
<b>Context</b>	<a href="#">system configuration role name</a> <i>reference rule path-reference string action keyword</i>
<b>Tree</b>	<a href="#">action</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• read This path may be read by the role</li> <li>• write This path may be written and read by the role</li> <li>• deny This path may not be read or written to by the role</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**session id number**

<b>Description</b>	List of configuration sessions currently active
<b>Context</b>	<a href="#">system configuration session id number</a>
<b>Tree</b>	<a href="#">session</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id number**

<b>Description</b>	System generated ID for the configuration session
<b>Context</b>	<a href="#">system configuration session id number</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**exclusive boolean**

<b>Description</b>	Details if this session is running in exclusive mode
<b>Context</b>	<a href="#">system configuration session id number exclusive boolean</a>
<b>Tree</b>	<a href="#">exclusive</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name string**

<b>Description</b>	Name of the candidate the session is active on Set to 'default' if a non-named candidate is active
<b>Context</b>	<a href="#">system configuration session id number name string</a>
<b>Tree</b>	<a href="#">name</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**started string**

<b>Description</b>	Start date and time of the configuration session
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<b>Context</b>	<a href="#">system configuration session id number started string</a>
<b>Tree</b>	<a href="#">started</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	Type of configuration session
<b>Context</b>	<a href="#">system configuration session id number type keyword</a>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• shared</li> <li>• private</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**username** *string*

<b>Description</b>	User that started the configuration session
<b>Context</b>	<a href="#">system configuration session id number username string</a>
<b>Tree</b>	<a href="#">username</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**dhcp-server**

<b>Description</b>	Configures the dhcp server
<b>Context</b>	<a href="#">system dhcp-server</a>
<b>Tree</b>	<a href="#">dhcp-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**admin-state** *keyword*

<b>Description</b>	Globally enable or disable the dhcp server Disabling this will disable all dhcp servers.
<b>Context</b>	<a href="#">system dhcp-server admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance** [name](#) *reference*

<b>Description</b>	List of network instances to run a dhcp server in
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *reference*

<b>Description</b>	Reference to a configured network instance
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference</a>
<b>Reference</b>	<a href="#">network-instance name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dhcpv4**

<b>Description</b>	Enter the dhcpv4 context
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4</a>
<b>Tree</b>	<a href="#">dhcpv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the dhcp server
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	Details if the dhcp server is operationally available
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power</li> </ul>

Component is offline due to insufficient system power

- degraded

Component or process is in a degraded state

- warm-reboot

Component or process is currently warm rebooting

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

## options

**Description**

Enter the options context

**Context**

[system dhcp-server network-instance name reference dhcpv4 options](#)

**Tree**

[options](#)

**Configurable**

True

**Platforms**

Supported on all platforms

## bootfile-name *string*

**Description**

The name of the configuration file the client will use during booting - option 67

**Context**

[system dhcp-server network-instance name reference dhcpv4 options bootfile-name string](#)

**Tree**

[bootfile-name](#)

**String Length**

1 to 128

**Configurable**

True

**Platforms**

Supported on all platforms

**dns-server *string***

<b>Description</b>	An Ordered List of DNS servers to return to the dhcp client - option 6
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options dns-server <i>string</i></a>
<b>Tree</b>	<a href="#">dns-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4

**domain-name *string***

<b>Description</b>	The domain name to return to the dhcp client that the client should use when resolving hostnames via the Domain Name System - option 15
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options domain-name <i>string</i></a>
<b>Tree</b>	<a href="#">domain-name</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hostname *string***

<b>Description</b>	Host Name option of the dhcp client - option 12
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options hostname <i>string</i></a>
<b>Tree</b>	<a href="#">hostname</a>
<b>String Length</b>	1 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ntp-server *string***

<b>Description</b>	List of NTP Servers to return to the dhcp client - option 42
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options ntp-server <i>string</i></a>
<b>Tree</b>	<a href="#">ntp-server</a>
<b>Configurable</b>	True

<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4

**router string**

<b>Description</b>	IPv4 address of the gateway for the dhcp client - option 3
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options router string</a>
<b>Tree</b>	<a href="#">router</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**server-id string**

<b>Description</b>	IP address the dhcp server must match any address within the network_instance e.g. sub-interface primary address, loopback address, anycast gateway address in case of multihoming - option 54
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options server-id string</a>
<b>Tree</b>	<a href="#">server-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**tftp-server-address string**

<b>Description</b>	List of IP address of the TFTP servers the client will use to download bootfile/configuration script - option 150
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 options tftp-server-address string</a>
<b>Tree</b>	<a href="#">tftp-server-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	2

**tftp-server-name string**

<b>Description</b>	FQDN of the TFTP server the client will use to download bootfile/configuration script - option 66
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<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 options tftp-server-name</a> <i>string</i>
<b>Tree</b>	<a href="#">tftp-server-name</a>
<b>String Length</b>	1 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## static-allocation

<b>Description</b>	Enter the static-allocation context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation</a>
<b>Tree</b>	<a href="#">static-allocation</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## host *mac string*

<b>Description</b>	host name for static ip allocations
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i>
<b>Tree</b>	<a href="#">host</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## mac *string*

<b>Description</b>	Enter the mac context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ip-address *string*

<b>Description</b>	Enter the ip-address context
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<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">ip-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ip-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## options

<b>Description</b>	Enter the options context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options</a>
<b>Tree</b>	<a href="#">options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bootfile-name *string*

<b>Description</b>	The name of the configuration file the client will use during booting - option 67
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options bootfile-name</a> <i>string</i>
<b>Tree</b>	<a href="#">bootfile-name</a>
<b>String Length</b>	1 to 128
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dns-server *string*

<b>Description</b>	An Ordered List of DNS servers to return to the dhcp client - option 6
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options dns-server</a> <i>string</i>
<b>Tree</b>	<a href="#">dns-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4

**domain-name** *string*

<b>Description</b>	The domain name to return to the dhcp client that the client should use when resolving hostnames via the Domain Name System - option 15
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options domain-name</a> <i>string</i>
<b>Tree</b>	<a href="#">domain-name</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**hostname** *string*

<b>Description</b>	Host Name option of the dhcp client - option 12
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options hostname</a> <i>string</i>
<b>Tree</b>	<a href="#">hostname</a>
<b>String Length</b>	1 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ntp-server** *string*

<b>Description</b>	List of NTP Servers to return to the dhcp client - option 42
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options ntp-server</a> <i>string</i>
<b>Tree</b>	<a href="#">ntp-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4

**router** *string*

<b>Description</b>	IPv4 address of the gateway for the dhcp client - option 3
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 static-allocation host mac</a> <i>string</i> <a href="#">options router</a> <i>string</i>
<b>Tree</b>	<a href="#">router</a>
<b>Configurable</b>	True



**Platforms** Supported on all platforms

### **server-id** *string*

**Description** IP address the dhcp server must match any address within the network\_ instance e.g. sub-interface primary address, loopback address, anycast gateway address in case of multihoming - option 54

**Context** [system dhcp-server network-instance name](#) *reference* [dhcpv4 static-allocation host mac](#) *string* [options server-id](#) *string*

**Tree** [server-id](#)

**Configurable** True

**Platforms** Supported on all platforms

### **tftp-server-address** *string*

**Description** List of IP address of the TFTP servers the client will use to download bootfile/configuration script - option 150

**Context** [system dhcp-server network-instance name](#) *reference* [dhcpv4 static-allocation host mac](#) *string* [options tftp-server-address](#) *string*

**Tree** [tftp-server-address](#)

**Configurable** True

**Platforms** Supported on all platforms

**Max. Elements** 2

### **tftp-server-name** *string*

**Description** FQDN of the TFTP server the client will use to download bootfile/ configuration script - option 66

**Context** [system dhcp-server network-instance name](#) *reference* [dhcpv4 static-allocation host mac](#) *string* [options tftp-server-name](#) *string*

**Tree** [tftp-server-name](#)

**String Length** 1 to 63

**Configurable** True

**Platforms** Supported on all platforms

### **statistics**

**Description** Enter the statistics context

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<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **client-packets-discarded** *number*

<b>Description</b>	Total discarded dhcp packets from dhcp client(s)
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 statistics client-packets-discarded number</a>
<b>Tree</b>	<a href="#">client-packets-discarded</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **client-packets-received** *number*

<b>Description</b>	Total received dhcp packets from dhcp client(s)
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 statistics client-packets-received number</a>
<b>Tree</b>	<a href="#">client-packets-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **server-packets-sent** *number*

<b>Description</b>	Total dhcp packets sent from DHCP server towards dhcp client(s)
<b>Context</b>	<a href="#">system dhcp-server network-instance name reference dhcpv4 statistics server-packets-sent number</a>
<b>Tree</b>	<a href="#">server-packets-sent</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**trace-options**

<b>Description</b>	Container for tracing DHCP server operations instance
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**trace keyword**

<b>Description</b>	List of events to trace
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv4 trace-options trace keyword</a>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• messages Capture all DHCP server messages sent and received</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dhcpv6**

<b>Description</b>	Enter the dhcpv6 context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6</a>
<b>Tree</b>	<a href="#">dhcpv6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state keyword**

<b>Description</b>	Administratively enable or disable the dhcp server
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details if the dhcp server is operationally available
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting</li> </ul>

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## options

<b>Description</b>	Enter the options context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 options</a>
<b>Tree</b>	<a href="#">options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dns-server *string*

<b>Description</b>	An Ordered List of DNS servers to return to the dhcp client
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 options dns-server</a> <i>string</i>
<b>Tree</b>	<a href="#">dns-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4

## static-allocation

<b>Description</b>	Enter the static-allocation context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 static-allocation</a>
<b>Tree</b>	<a href="#">static-allocation</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## host *mac string*

<b>Description</b>	host name for static ip allocations
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<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 static-allocation host mac</a> <i>string</i>
<b>Tree</b>	<a href="#">host</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac** *string*

<b>Description</b>	Enter the mac context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 static-allocation host mac</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-address** *string*

<b>Description</b>	Enter the ip-address context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 static-allocation host mac</a> <i>string</i> <a href="#">ip-address</a> <i>string</i>
<b>Tree</b>	<a href="#">ip-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**options**

<b>Description</b>	Enter the options context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 static-allocation host mac</a> <i>string</i> <a href="#">options</a>
<b>Tree</b>	<a href="#">options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dns-server** *string*

<b>Description</b>	An Ordered List of DNS servers to return to the dhcp client
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 static-allocation host mac</a> <i>string</i> <a href="#">options dns-server</a> <i>string</i>

<b>Tree</b>	<a href="#">dns-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	4

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## client-packets-discarded *number*

<b>Description</b>	Total discarded dhcp packets from dhcp client(s)
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 statistics</a> <a href="#">client-packets-discarded</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-discarded</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## client-packets-received *number*

<b>Description</b>	Total received dhcp packets from dhcp client(s)
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 statistics</a> <a href="#">client-packets-received</a> <i>number</i>
<b>Tree</b>	<a href="#">client-packets-received</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## server-packets-sent *number*

<b>Description</b>	Total dhcp packets sent from DHCP server towards dhcp client(s)
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<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 statistics server-packets-sent</a> <i>number</i>
<b>Tree</b>	<a href="#">server-packets-sent</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## trace-options

<b>Description</b>	Container for tracing DHCP server operations instance
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 trace-options</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## trace *keyword*

<b>Description</b>	List of events to trace
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>reference</i> <a href="#">dhcpv6 trace-options trace</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>messages Capture all DHCP server messages sent and received</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dns

<b>Description</b>	Top-level container for DNS configuration and state
<b>Context</b>	<a href="#">system dns</a>
<b>Tree</b>	<a href="#">dns</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**host-entry** *name string*

<b>Description</b>	List of static host entries
<b>Context</b>	<a href="#">system dns host-entry name string</a>
<b>Tree</b>	<a href="#">host-entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of host entry
<b>Context</b>	<a href="#">system dns host-entry name string</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-address** *string*

<b>Description</b>	IPv4 address for the host entry
<b>Context</b>	<a href="#">system dns host-entry name string ipv4-address string</a>
<b>Tree</b>	<a href="#">ipv4-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-address** *string*

<b>Description</b>	IPv6 address for the host entry
<b>Context</b>	<a href="#">system dns host-entry name string ipv6-address string</a>
<b>Tree</b>	<a href="#">ipv6-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance** *reference*

<b>Description</b>	Reference to a configured network-instance to source DNS requests from
<b>Context</b>	<a href="#">system dns network-instance reference</a>
<b>Tree</b>	<a href="#">network-instance</a>

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<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details the operational state of the DNS client
<b>Context</b>	<a href="#">system dns oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting</li> </ul>

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **search-list** *string*

<b>Description</b>	An ordered list of domains to search when resolving a host name
<b>Context</b>	<a href="#">system dns search-list</a> <i>string</i>
<b>Tree</b>	<a href="#">search-list</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **server-list** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of the DNS servers that the resolver should query
<b>Context</b>	<a href="#">system dns server-list</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">server-list</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	3

### **event-handler**

<b>Description</b>	Top-level container for configuration and state of event handler and event handling instances
<b>Context</b>	<a href="#">system event-handler</a>
<b>Tree</b>	<a href="#">event-handler</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**instance name** *string*

<b>Description</b>	List of all event handler instances An event handler instance consists of a set of paths to be monitored for changes, and a Python script to execute if changes occur.
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	20

**name** *string*

<b>Description</b>	A user-defined name for this event handler instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable this event handler instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-errored-execution**

<b>Description</b>	Operational state of the last errored execution of this instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-errored-execution</a>
<b>Tree</b>	<a href="#">last-errored-execution</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**end-time** *string*

<b>Description</b>	The time this instance last finished execution This timestamp includes any actions provided as output from the execution
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-errored-execution</a> <a href="#">end-time</a> <i>string</i>
<b>Tree</b>	<a href="#">end-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**input** *string*

<b>Description</b>	The input provided to the script
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-errored-execution</a> <a href="#">input</a> <i>string</i>
<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**oper-down-reason** *keyword*

<b>Description</b>	The reason this instance is or was in its last operational state
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-errored-execution</a> <a href="#">oper-down-reason</a> <i>keyword</i>

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<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>admin-disabled</b> Event handler instance is admin-disabled</li> <li>• <b>failed-to-compile</b> Event handler failed to compile the script, indicating that the script likely has a syntax error</li> <li>• <b>exception</b> Event handler caught an exception in the last execution of the script</li> <li>• <b>timeout</b> The last execution of the script did not complete before a timeout occurred</li> <li>• <b>subscription-failed</b> Event handler was unable to subscribe to the provided paths</li> <li>• <b>script-unavailable</b> Event handler was unable to find the script on the filesystem</li> <li>• <b>script-error</b> The script returned something invalid</li> <li>• <b>missing-function</b> Event handler was unable to find a function named <code>event_handler_main()</code> in the provided script</li> <li>• <b>system-error</b> There was a failure in setting up the python environment</li> <li>• <b>ephemeral-action-failed</b> Event handler was unable to perform a ephemeral-path action in the previous execution</li> <li>• <b>cfg-action-failed</b> Event handler was unable to perform a cfg-path action in the previous execution</li> <li>• <b>tools-action-failed</b> Event handler was unable to perform a tools-path action in the previous execution</li> <li>• <b>state-action-failed</b> Event handler was unable to perform a state-path action in the previous execution</li> <li>• <b>script-action-failed</b> Event handler was unable to perform a script action in the previous execution</li> </ul>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### oper-down-reason-detail *string*

**Description** Any additional detail event handler can provide around the last operational state of this instance

**Context** [system event-handler instance name](#) *string* [last-errored-execution oper-down-reason-detail](#) *string*

**Tree** [oper-down-reason-detail](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### output *string*

**Description** The output received from the script  
If empty, no response was received.

**Context** [system event-handler instance name](#) *string* [last-errored-execution output](#) *string*

**Tree** [output](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### start-time *string*

**Description** The time this instance last started execution

**Context** [system event-handler instance name](#) *string* [last-errored-execution start-time](#) *string*

**Tree** [start-time](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**stdout-stderr** *string*

<b>Description</b>	The output printed on STDOUT or STDERR during this execution
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-errored-execution stdout-stderr</a> <i>string</i>
<b>Tree</b>	<a href="#">stdout-stderr</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**upython-duration** *number*

<b>Description</b>	Time taken for the instance to return output
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-errored-execution upython-duration</a> <i>number</i>
<b>Tree</b>	<a href="#">upython-duration</a>
<b>Units</b>	microseconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**last-execution**

<b>Description</b>	Operational state of the last execution of this instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution</a>
<b>Tree</b>	<a href="#">last-execution</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**end-time** *string*

<b>Description</b>	The time this instance last finished execution This timestamp includes any actions provided as output from the execution
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution end-time</a> <i>string</i>



<b>Tree</b>	<a href="#">end-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **input** *string*

<b>Description</b>	The input provided to the script
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution input</a> <i>string</i>
<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **oper-down-reason** *keyword*

<b>Description</b>	The reason this instance is or was in its last operational state
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>admin-disabled</b> Event handler instance is admin-disabled</li> <li>• <b>failed-to-compile</b> Event handler failed to compile the script, indicating that the script likely has a syntax error</li> <li>• <b>exception</b> Event handler caught an exception in the last execution of the script</li> <li>• <b>timeout</b> The last execution of the script did not complete before a timeout occurred</li> <li>• <b>subscription-failed</b> Event handler was unable to subscribe to the provided paths</li> <li>• <b>script-unavailable</b> Event handler was unable to find the script on the filesystem</li> <li>• <b>script-error</b></li> </ul>

The script returned something invalid

- missing-function

Event handler was unable to find a function named `event_handler_main()` in the provided script

- system-error

There was a failure in setting up the python environment

- ephemeral-action-failed

Event handler was unable to perform a ephemeral-path action in the previous execution

- cfg-action-failed

Event handler was unable to perform a cfg-path action in the previous execution

- tools-action-failed

Event handler was unable to perform a tools-path action in the previous execution

- state-action-failed

Event handler was unable to perform a state-path action in the previous execution

- script-action-failed

Event handler was unable to perform a script action in the previous execution

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**oper-down-reason-detail** *string*

**Description**

Any additional detail event handler can provide around the last operational state of this instance

**Context**

[system event-handler instance name](#) *string* [last-execution oper-down-reason-detail](#) *string*

**Tree**

[oper-down-reason-detail](#)

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**output** *string*

<b>Description</b>	The output received from the script If empty, no response was received.
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution output</a> <i>string</i>
<b>Tree</b>	<a href="#">output</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**start-time** *string*

<b>Description</b>	The time this instance last started execution
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution start-time</a> <i>string</i>
<b>Tree</b>	<a href="#">start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**stdout-stderr** *string*

<b>Description</b>	The output printed on STDOUT or STDERR during this execution
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution stdout-stderr</a> <i>string</i>
<b>Tree</b>	<a href="#">stdout-stderr</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**upython-duration** *number*

<b>Description</b>	Time taken for the instance to return output
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">last-execution upython-duration</a> <i>number</i>
<b>Tree</b>	<a href="#">upython-duration</a>

<b>Units</b>	microseconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **oper-state** *keyword*

<b>Description</b>	Details if this event handler instance is operationally available
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <b>oper-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting</li> </ul>

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## options

**Description**

Options to be passed on each execution of the script

**Context**

[system event-handler instance name](#) *string* [options](#)

**Tree**

[options](#)

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## object [name string](#)

**Description**

Enter the object list instance

**Context**

[system event-handler instance name](#) *string* [options](#) [object name](#) *string*

**Tree**

[object](#)

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## [name string](#)

**Description**

The name of this object

**Context**

[system event-handler instance name](#) *string* [options](#) [object name](#) *string*

**String Length**

1 to 255

**Configurable**

True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### value string

**Description** A single value to associate with this object

**Context** [system event-handler instance name string options object name string value string](#)

**Tree** [value](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### values string

**Description** List of values to associate with this object, these are serialized as a JSON array when provided as input to the script

**Context** [system event-handler instance name string options object name string values string](#)

**Tree** [values](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### paths string

**Description** List of valid YANG paths in CLI notation to monitor for changes  
If any events are received on any of the provided paths, the configured script will be executed.  
This path may include keys, wildcards, ranges, and other management server supported constructs.  
E.g. "interface \* oper-state" "acl ipv4-filter foo\* description"

**Context** [system event-handler instance name string paths string](#)

**Tree** [paths](#)

**Configurable** True

<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6
<b>Max. Elements</b>	36

## statistics

<b>Description</b>	Top-level container for event handler statistics
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## execution-count *number*

<b>Description</b>	Indicates the total number of executions of this script
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics execution-count</a> <i>number</i>
<b>Tree</b>	<a href="#">execution-count</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## execution-errors *number*

<b>Description</b>	Indicates the total number of errors in executions of this script
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics execution-errors</a> <i>number</i>
<b>Tree</b>	<a href="#">execution-errors</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**execution-successes** *number*

<b>Description</b>	Indicates the total number of successful executions of this script
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics execution-successes</a> <i>number</i>
<b>Tree</b>	<a href="#">execution-successes</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**execution-timeouts** *number*

<b>Description</b>	Indicates the total number of timeouts in executions of this script
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics execution-timeouts</a> <i>number</i>
<b>Tree</b>	<a href="#">execution-timeouts</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**upython-duration** *number*

<b>Description</b>	Total time taken for all executions of this script to return output
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics upython-duration</a> <i>number</i>
<b>Tree</b>	<a href="#">upython-duration</a>
<b>Units</b>	milliseconds
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6



**upython-script** *string*

<b>Description</b>	File name of a MicroPython script, including .py suffix This script should exist in /etc/opt/srlinux/eventmgr or /opt/srlinux/eventmgr already. Explicit paths outside of these two directories are not permitted.
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">upython-script</a> <i>string</i>
<b>Tree</b>	<a href="#">upython-script</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**run-as-user** *reference*

<b>Description</b>	The user to run event handler instances as If no user is configured, scripts are executed as the 'admin' user.
<b>Context</b>	<a href="#">system event-handler run-as-user</a> <i>reference</i>
<b>Tree</b>	<a href="#">run-as-user</a>
<b>Reference</b>	<a href="#">system aaa authentication user username</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**features** *string*

<b>Description</b>	Features enabled on this platform
<b>Context</b>	<a href="#">system features</a> <i>string</i>
<b>Tree</b>	<a href="#">features</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**ftp-server**

<b>Description</b>	Top-level container for FTP server configuration and state
<b>Context</b>	<a href="#">system ftp-server</a>

<b>Tree</b>	<a href="#">ftp-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **network-instance** [name](#) *reference*

<b>Description</b>	List of network-instances to run an FTP server in
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **name** *reference*

<b>Description</b>	Reference to a configured network-instance
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	Enables or disables the FTP server in this network-instance
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i> <b>admin-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details the operational state of the FTP server
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i> <b>oper-state</b> <i>keyword</i>

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<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**session-limit** *number*

<b>Description</b>	Set a limit on the number of simultaneous active FTP sessions
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i> <a href="#">session-limit number</a>
<b>Tree</b>	<a href="#">session-limit</a>
<b>Default</b>	20
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	IPv4 or IPv6 address for the FTP server to listen on within the network-instance  Default behavior is to listen on '::', which will listen on all addresses for both IPv4 and IPv6. In order to listen on IPv4 only, this field should be set to '0.0.0.0'.
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i> <a href="#">source-address (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">source-address</a>
<b>Default</b>	::
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**timeout** *number*

<b>Description</b>	Set the idle timeout in seconds on FTP connections
<b>Context</b>	<a href="#">system ftp-server network-instance name</a> <i>reference</i> <a href="#">timeout number</a>
<b>Tree</b>	<a href="#">timeout</a>
<b>Default</b>	300
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**gnmi-server**

<b>Description</b>	Configures the gNMI server access API
<b>Context</b>	<a href="#">system gnmi-server</a>

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<b>Tree</b>	<a href="#">gnmi-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Globally enable or disable the gNMI server. Disabling this will disable all gNMI servers.
<b>Context</b>	<a href="#">system gnmi-server admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**commit-confirmed-timeout** *number*

<b>Description</b>	Number of seconds to wait for confirmation. A value of 0 means commit confirmed is not used
<b>Context</b>	<a href="#">system gnmi-server commit-confirmed-timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">commit-confirmed-timeout</a>
<b>Range</b>	0 to 86400
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**commit-save** *boolean*

<b>Description</b>	Specifies whether to save startup configuration after every successful commit
<b>Context</b>	<a href="#">system gnmi-server commit-save</a> <i>boolean</i>
<b>Tree</b>	<a href="#">commit-save</a>
<b>Default</b>	false
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **include-defaults-in-config-only-responses** *boolean*

**Description** Specifies whether to include field default values in get/subscribe responses when using configuration only datastore (for example running/intended datastore)

**Context** [system gnmi-server include-defaults-in-config-only-responses](#) *boolean*

**Tree** [include-defaults-in-config-only-responses](#)

**Default** false

**Configurable** True

**Platforms** Supported on all platforms

### **network-instance** [name](#) *reference*

**Description** List of network instances to run a gNMI server in

**Context** [system gnmi-server network-instance](#) [name](#) *reference*

**Tree** [network-instance](#)

**Configurable** True

**Platforms** Supported on all platforms

### **name** *reference*

**Description** Reference to a configured network instance

**Context** [system gnmi-server network-instance](#) [name](#) *reference*

**Reference** [network-instance](#) [name](#) *string*

**Configurable** True

**Platforms** Supported on all platforms

### **admin-state** *keyword*

**Description** Administratively enable or disable the gNMI server

**Context** [system gnmi-server network-instance](#) [name](#) *reference* [admin-state](#) *keyword*

**Tree** [admin-state](#)

**Default** disable

**Options**

- enable

<b>Configurable</b>	• disable True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details if the gNMI server is operationally available
<b>Context</b>	<a href="#">system gnmi-server network-instance name</a> <i>reference</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting  This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting</li> </ul>

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **port** *number*

<b>Description</b>	Port the gNMI server will listen on for incoming connections
<b>Context</b>	<a href="#">system gnmi-server network-instance name</a> <i>reference</i> <a href="#">port number</a>
<b>Tree</b>	<a href="#">port</a>
<b>Range</b>	0 to 65535
<b>Default</b>	57400
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of IP addresses the gNMI server will listen on within the network instance
<b>Context</b>	<a href="#">system gnmi-server network-instance name</a> <i>reference</i> <a href="#">source-address (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">source-address</a>
<b>Default</b>	::
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **tls-profile** *reference*

<b>Description</b>	Reference to the TLS profile to use on the gNMI server
<b>Context</b>	<a href="#">system gnmi-server network-instance name</a> <i>reference</i> <a href="#">tls-profile reference</a>
<b>Tree</b>	<a href="#">tls-profile</a>
<b>Reference</b>	<a href="#">system tls server-profile name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every gNMI request
<b>Context</b>	<a href="#">system gnmi-server network-instance name</a> <i>reference</i> <a href="#">use-authentication boolean</a>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**yang-models** *keyword*

<b>Description</b>	Specify yang-models to be used when origin field is not present in the gnmi requests
<b>Context</b>	<a href="#">system gnmi-server network-instance name</a> <i>reference</i> <a href="#">yang-models keyword</a>
<b>Tree</b>	<a href="#">yang-models</a>
<b>Default</b>	native
<b>Options</b>	<ul style="list-style-type: none"> <li>• native</li> <li>• openconfig</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**rate-limit** *number*

<b>Description</b>	Set a limit on the number of connection attempts per minute
<b>Context</b>	<a href="#">system gnmi-server rate-limit</a> <i>number</i>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Range</b>	0 to 65535
<b>Default</b>	60
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**session-limit** *number*

<b>Description</b>	Set a limit on the number of simultaneous active gNMI sessions
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<b>Context</b>	<a href="#">system gnmi-server session-limit</a> <i>number</i>
<b>Tree</b>	<a href="#">session-limit</a>
<b>Range</b>	0 to 65535
<b>Default</b>	20
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **subscription id** *number*

<b>Description</b>	List of subscriptions
<b>Context</b>	<a href="#">system gnmi-server subscription id</a> <i>number</i>
<b>Tree</b>	<a href="#">subscription</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **id** *number*

<b>Description</b>	System generated ID for for the subscription
<b>Context</b>	<a href="#">system gnmi-server subscription id</a> <i>number</i>
<b>Range</b>	0 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **mode** *keyword*

<b>Description</b>	Subscription mode (ON_CHANGE, SAMPLE, TARGET_DEFINED, POLL, ONCE)
<b>Context</b>	<a href="#">system gnmi-server subscription id</a> <i>number</i> <a href="#">mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• ON_CHANGE</li> <li>• SAMPLE</li> <li>• TARGET_DEFINED</li> <li>• POLL</li> <li>• ONCE</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**paths** *string*

<b>Description</b>	List of paths being subscribed to
<b>Context</b>	<a href="#">system gnmi-server subscription id number paths string</a>
<b>Tree</b>	<a href="#">paths</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remote-host** (*ipv4-address | ipv6-address*)

<b>Description</b>	Remote host of the subscription
<b>Context</b>	<a href="#">system gnmi-server subscription id number remote-host (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">remote-host</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**remote-port** *number*

<b>Description</b>	Remote port of the subscription
<b>Context</b>	<a href="#">system gnmi-server subscription id number remote-port number</a>
<b>Tree</b>	<a href="#">remote-port</a>
<b>Range</b>	0 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**sample-interval** *number*

<b>Description</b>	Time in seconds to provide updates to the remote host, set to 0 for all subscription modes except SAMPLE
<b>Context</b>	<a href="#">system gnmi-server subscription id number sample-interval number</a>
<b>Tree</b>	<a href="#">sample-interval</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**start-time** *string*

<b>Description</b>	Time of the subscription creation
<b>Context</b>	<a href="#">system gnmi-server subscription id number start-time string</a>
<b>Tree</b>	<a href="#">start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**user** *string*

<b>Description</b>	Authenticated username for the subscription
<b>Context</b>	<a href="#">system gnmi-server subscription id number user string</a>
<b>Tree</b>	<a href="#">user</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**user-agent** *string*

<b>Description</b>	User agent used for the subscription
<b>Context</b>	<a href="#">system gnmi-server subscription id number user-agent string</a>
<b>Tree</b>	<a href="#">user-agent</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**timeout** *number*

<b>Description</b>	Set the idle timeout in seconds on gNMI connections
<b>Context</b>	<a href="#">system gnmi-server timeout number</a>
<b>Tree</b>	<a href="#">timeout</a>
<b>Range</b>	0 to 65535
<b>Default</b>	7200
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**trace-options** *keyword*

<b>Description</b>	gNMI trace options
<b>Context</b>	<a href="#">system gnmi-server trace-options</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• request</li> <li>• response</li> <li>• common</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**unix-socket**

<b>Description</b>	Top-level container for configuration and state related to unix sockets
<b>Context</b>	<a href="#">system gnmi-server unix-socket</a>
<b>Tree</b>	<a href="#">unix-socket</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the gNMI server
<b>Context</b>	<a href="#">system gnmi-server unix-socket admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	Details if the gNMI server is operationally available
<b>Context</b>	<a href="#">system gnmi-server unix-socket oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up</li> </ul>

- Component or process is operational
- down
- Component or process is not operational
- empty
- Component slot is empty
- downloading
- Component is downloading image into memory
- booting
- Component is booting downloaded image
- starting
- Component image operational, application processes starting
- failed
- Component or process has failed
- synchronizing
- Component is currently being synchronized
- upgrading
- Component is currently being upgraded
- low-power
- Component is offline due to insufficient system power
- degraded
- Component or process is in a degraded state
- warm-reboot
- Component or process is currently warm rebooting
- This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting
- Component or process is currently waiting
- This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**socket-path** *string***Description**

Path to the unix socket used by gNMI

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<b>Context</b>	<a href="#">system gnmi-server unix-socket socket-path</a> <i>string</i>
<b>Tree</b>	<a href="#">socket-path</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **tls-profile** *reference*

<b>Description</b>	Reference to the TLS profile to use on the gNMI unix socket server If none is specified, then TLS is not used.
<b>Context</b>	<a href="#">system gnmi-server unix-socket tls-profile</a> <i>reference</i>
<b>Tree</b>	<a href="#">tls-profile</a>
<b>Reference</b>	<a href="#">system tls server-profile name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every gNMI request
<b>Context</b>	<a href="#">system gnmi-server unix-socket use-authentication</a> <i>boolean</i>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **yang-models** *keyword*

<b>Description</b>	Specify yang-models to be used when origin field is not present in the gnmi requests
<b>Context</b>	<a href="#">system gnmi-server unix-socket yang-models</a> <i>keyword</i>
<b>Tree</b>	<a href="#">yang-models</a>
<b>Default</b>	native
<b>Options</b>	<ul style="list-style-type: none"> <li>• native</li> <li>• openconfig</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **gribi-server**

<b>Description</b>	Configures the gRPC Routing Information Base Interface (gRIBI) service
<b>Context</b>	<a href="#">system gribi-server</a>
<b>Tree</b>	<a href="#">gribi-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **admin-state** *keyword*

<b>Description</b>	Globally enable or disable the gRIBI service Disabling this will disable all gRIBI sockets in all configured network-instances (including unix sockets).
<b>Context</b>	<a href="#">system gribi-server admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **client id** *number*

<b>Description</b>	List of active gRIBI client sessions
<b>Context</b>	<a href="#">system gribi-server client id</a> <i>number</i>
<b>Tree</b>	<a href="#">client</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## **id** *number*

<b>Description</b>	System generated ID for for the client
<b>Context</b>	<a href="#">system gribi-server client id</a> <i>number</i>
<b>Range</b>	0 to 4294967295
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **election-id** *string*

**Description** Election ID of this client

**Context** [system gribi-server client id number election-id string](#)

**Tree** [election-id](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **persistence-mode** *keyword*

**Description** The defined persistence mode as signaled by the client

**Context** [system gribi-server client id number persistence-mode keyword](#)

**Tree** [persistence-mode](#)

**Options**

- preserve  
Entries populated by the client will be persisted during a client disconnect, or control module switchover
- delete  
Entries populated by the client will be purged on the client disconnecting, or a control module switchover

If no persistence mode is signaled, the default is to delete entries.

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **remote-host** (*ipv4-address* | *ipv6-address*)

**Description** Remote host of the client

**Context** [system gribi-server client id number remote-host \(ipv4-address | ipv6-address\)](#)

**Tree** [remote-host](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **remote-port** *number*

**Description** Remote port of the client

<b>Context</b>	<a href="#">system gribi-server client id number remote-port number</a>
<b>Tree</b>	<a href="#">remote-port</a>
<b>Range</b>	0 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**start-time** *string*

<b>Description</b>	Time the client first connected
<b>Context</b>	<a href="#">system gribi-server client id number start-time string</a>
<b>Tree</b>	<a href="#">start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**user** *string*

<b>Description</b>	Authenticated username for the client
<b>Context</b>	<a href="#">system gribi-server client id number user string</a>
<b>Tree</b>	<a href="#">user</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**user-agent** *string*

<b>Description</b>	User agent used for by the client
<b>Context</b>	<a href="#">system gribi-server client id number user-agent string</a>
<b>Tree</b>	<a href="#">user-agent</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**network-instance** [name](#) *reference*

<b>Description</b>	List of network instances to run a gRIBI socket in
<b>Context</b>	<a href="#">system gribi-server network-instance name reference</a>
<b>Tree</b>	<a href="#">network-instance</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**name** *reference*

<b>Description</b>	Reference to a configured network instance
<b>Context</b>	<a href="#">system gribi-server network-instance name reference</a>
<b>Reference</b>	<a href="#">network-instance name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the gRIBI service
<b>Context</b>	<a href="#">system gribi-server network-instance name reference admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-state** *keyword*

<b>Description</b>	Details if the gRIBI service is operationally available
<b>Context</b>	<a href="#">system gribi-server network-instance name reference oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting</li> </ul>

- Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**port number****Description**

TCP port the gRIBI server will listen on for incoming connections

**Context**[system gribi-server network-instance name](#) *reference* [port number](#)**Tree**[port](#)**Range**

0 to 65535

**Default**

57401

**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of IP addresses the gRIBI server will listen on within the network instance  By default the gRIBI server will listen on all addresses in the network-instance.
<b>Context</b>	<a href="#">system gribi-server network-instance name reference source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**tls-profile** *reference*

<b>Description</b>	Reference to the TLS profile to use on the gRIBI server
<b>Context</b>	<a href="#">system gribi-server network-instance name reference tls-profile reference</a>
<b>Tree</b>	<a href="#">tls-profile</a>
<b>Reference</b>	<a href="#">system tls server-profile name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every gRIBI RPC request
<b>Context</b>	<a href="#">system gribi-server network-instance name reference use-authentication boolean</a>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**rate-limit** *number*

<b>Description</b>	Set a limit on the number of connection attempts per minute
<b>Context</b>	<a href="#">system gribi-server rate-limit number</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Range</b>	0 to 65535

<b>Default</b>	60
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **session-limit** *number*

<b>Description</b>	Set a limit on the number of simultaneous active gRIBI sessions A session is defined as an individual RPC invocation, which could result in a single client generating multiple sessions.
<b>Context</b>	<a href="#">system gribi-server session-limit</a> <i>number</i>
<b>Tree</b>	<a href="#">session-limit</a>
<b>Range</b>	0 to 65535
<b>Default</b>	20
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **timeout** *number*

<b>Description</b>	Set the idle timeout in seconds on gRIBI clients
<b>Context</b>	<a href="#">system gribi-server timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">timeout</a>
<b>Range</b>	0 to 65535
<b>Default</b>	7200
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **trace-options** *keyword*

<b>Description</b>	gRIBI trace options
<b>Context</b>	<a href="#">system gribi-server trace-options</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• request</li> <li>• response</li> <li>• common</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### unix-socket

<b>Description</b>	Top-level container for configuration and state related to unix sockets
<b>Context</b>	<a href="#">system gribi-server unix-socket</a>
<b>Tree</b>	<a href="#">unix-socket</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### admin-state *keyword*

<b>Description</b>	Administratively enable or disable the gRIBI service
<b>Context</b>	<a href="#">system gribi-server unix-socket admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### oper-state *keyword*

<b>Description</b>	Details if the gRIBI service is operationally available
<b>Context</b>	<a href="#">system gribi-server unix-socket oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting</li> </ul>

- Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**socket-path** *string***Description**

Path to the unix socket used by gRIBI

**Context**[system gribi-server unix-socket socket-path](#) *string***Tree**[socket-path](#)**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**tls-profile** *reference***Description**

Reference to the TLS profile to use on the gRIBI unix socket server



If none is specified, then TLS is not used.

<b>Context</b>	<a href="#">system gribi-server unix-socket tls-profile</a> <i>reference</i>
<b>Tree</b>	<a href="#">tls-profile</a>
<b>Reference</b>	<a href="#">system tls server-profile name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every gRIBI RPC request
<b>Context</b>	<a href="#">system gribi-server unix-socket use-authentication</a> <i>boolean</i>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **information**

<b>Description</b>	Top-level container for system information configuration and state
<b>Context</b>	<a href="#">system information</a>
<b>Tree</b>	<a href="#">information</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **contact** *string*

<b>Description</b>	The system contact  This field represents contact information for the person or group that maintains the system. This field is exposed via SNMP at the sysContact OID.
<b>Context</b>	<a href="#">system information contact</a> <i>string</i>
<b>Tree</b>	<a href="#">contact</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**current-datetime** *string*

<b>Description</b>	The current system date and time
<b>Context</b>	<a href="#">system information current-datetime</a> <i>string</i>
<b>Tree</b>	<a href="#">current-datetime</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**description** *string*

<b>Description</b>	The system description  This field is system generated, and is a combination of the system host name, software version, kernel version, and build date. The template for this field is: SRLinux-<version> <hostname> <kernel> <build date>. This field is exposed via SNMP at the sysDescr OID.
<b>Context</b>	<a href="#">system information description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-booted** *string*

<b>Description</b>	The date and time the system was last booted
<b>Context</b>	<a href="#">system information last-booted</a> <i>string</i>
<b>Tree</b>	<a href="#">last-booted</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**location** *string*

<b>Description</b>	The system location  This field represents the location of the system, and is commonly used by inventory management systems to group elements together. This field is exposed via SNMP at the sysLocation OID.
<b>Context</b>	<a href="#">system information location</a> <i>string</i>
<b>Tree</b>	<a href="#">location</a>

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<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**version string**

<b>Description</b>	The system version This field represents the version of the management server
<b>Context</b>	<a href="#">system information version string</a>
<b>Tree</b>	<a href="#">version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**json-rpc-server**

<b>Description</b>	Configures the JSON RPC access API
<b>Context</b>	<a href="#">system json-rpc-server</a>
<b>Tree</b>	<a href="#">json-rpc-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state keyword**

<b>Description</b>	Globally enable or disable the JSON RPC server Disabling this will disable all JSON RPC servers.
<b>Context</b>	<a href="#">system json-rpc-server admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**commit-confirmed-timeout number**

<b>Description</b>	Number of seconds to wait for confirmation. A value of 0 means commit confirmed is not used
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<b>Context</b>	<a href="#">system json-rpc-server commit-confirmed-timeout</a> <i>number</i>
<b>Tree</b>	<a href="#">commit-confirmed-timeout</a>
<b>Range</b>	0 to 86400
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **network-instance** [name](#) *reference*

<b>Description</b>	List of network instances to run the JSON RPC server in
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **name** *reference*

<b>Description</b>	Reference to a configured network-instance
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **http**

<b>Description</b>	Top-level container for the JSON RPC HTTP server
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">http</a>
<b>Tree</b>	<a href="#">http</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the HTTP JSON RPC server This requires the JSON RPC server to be globally enabled
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<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">http admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details if the JSON RPC server is operationally available
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">http oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded</li> </ul>

Component or process is in a degraded state

- warm-reboot

Component or process is currently warm rebooting

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

### **port number**

**Description**

The port the HTTP JSON RPC server will listen on for incoming connections

**Context**

[system json-rpc-server network-instance name](#) *reference* [http port number](#)

**Tree**

[port](#)

**Range**

0 to 65535

**Default**

80

**Configurable**

True

**Platforms**

Supported on all platforms

### **session-limit number**

**Description**

The number of concurrent requests the server will allow. If a request comes in while this limit is reached, the request will block until another request is finished.

**Context**

[system json-rpc-server network-instance name](#) *reference* [http session-limit number](#)

**Tree**

[session-limit](#)

**Range**

1 to 100

**Default**

10

**Configurable**

True

**Platforms**

Supported on all platforms

**source-address** (*ipv4-address | ipv6-address*)

<b>Description</b>	List of IP addresses the JSON RPC server will listen on within the network instance
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">http source-address</a> ( <i>ipv4-address   ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Default</b>	::
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every JSON RPC request
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">http use-authentication</a> <i>boolean</i>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**https**

<b>Description</b>	Top-level container for the JSON-RPC HTTPS server
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">https</a>
<b>Tree</b>	<a href="#">https</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the HTTPS JSON RPC server This requires the JSON RPC server to be globally enabled
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">https admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable

<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details if the JSON RPC server is operationally available
<b>Context</b>	<a href="#">system json-rpc-server network-instance name</a> <i>reference</i> <a href="#">https oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting</li> </ul>



This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **port** *number*

<b>Description</b>	Port the HTTPS JSON RPC server will listen on for incoming connections
<b>Context</b>	<a href="#">system json-rpc-server network-instance name reference https port number</a>
<b>Tree</b>	<a href="#">port</a>
<b>Range</b>	0 to 65535
<b>Default</b>	443
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **session-limit** *number*

<b>Description</b>	The number of concurrent requests the server will allow. If a request comes in while this limit is reached, the request will block until another request is finished.
<b>Context</b>	<a href="#">system json-rpc-server network-instance name reference https session-limit number</a>
<b>Tree</b>	<a href="#">session-limit</a>
<b>Range</b>	1 to 100
<b>Default</b>	10
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of IP addresses the JSON RPC server will listen on within the network instance
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<b>Context</b>	<a href="#">system json-rpc-server network-instance name reference https source-address (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">source-address</a>
<b>Default</b>	::
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **tls-profile** *reference*

<b>Description</b>	Reference to the TLS profile to use on the HTTP JSON RPC server
<b>Context</b>	<a href="#">system json-rpc-server network-instance name reference https tls-profile reference</a>
<b>Tree</b>	<a href="#">tls-profile</a>
<b>Reference</b>	<a href="#">system tls server-profile name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every JSON RPC request
<b>Context</b>	<a href="#">system json-rpc-server network-instance name reference https use-authentication boolean</a>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace-options** *keyword*

<b>Description</b>	JSON RPC trace options
<b>Context</b>	<a href="#">system json-rpc-server trace-options keyword</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• request</li> <li>• response</li> <li>• common</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### unix-socket

<b>Description</b>	Top-level container for configuration and state related to unix sockets
<b>Context</b>	<a href="#">system json-rpc-server unix-socket</a>
<b>Tree</b>	<a href="#">unix-socket</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### admin-state *keyword*

<b>Description</b>	Administratively enable or disable the JSON RPC server via unix socket This requires the JSON RPC server to be globally enabled
<b>Context</b>	<a href="#">system json-rpc-server unix-socket admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### oper-state *keyword*

<b>Description</b>	Details if the JSON RPC server is operationally available
<b>Context</b>	<a href="#">system json-rpc-server unix-socket oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> </ul>

- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

Supported on all platforms

**socket-path** *string***Description**

Path to the unix socket used by JSON RPC

**Context**[system json-rpc-server](#) [unix-socket](#) [socket-path](#) *string***Tree**[socket-path](#)**Configurable**

False

**Platforms**

Supported on all platforms

**tls-profile** *reference*

<b>Description</b>	Reference to the TLS profile to use on the JSON RPC unix socket server If none is specified, then TLS is not used.
<b>Context</b>	<a href="#">system json-rpc-server unix-socket tls-profile</a> <i>reference</i>
<b>Tree</b>	<a href="#">tls-profile</a>
<b>Reference</b>	<a href="#">system tls server-profile name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**use-authentication** *boolean*

<b>Description</b>	Enable or disable the use of username/password authentication for every JSON RPC request
<b>Context</b>	<a href="#">system json-rpc-server unix-socket use-authentication</a> <i>boolean</i>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**I2cp-transparency**

<b>Description</b>	Enclosing container for system level Layer-2 Control Protocol transparency.
<b>Context</b>	<a href="#">system I2cp-transparency</a>
<b>Tree</b>	<a href="#">I2cp-transparency</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**I2cp-statistics**

<b>Description</b>	Container for Layer-2 Control Plane protocol statistics.
<b>Context</b>	<a href="#">system I2cp-transparency I2cp-statistics</a>
<b>Tree</b>	<a href="#">I2cp-statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**dot1x**

<b>Description</b>	Container for 802.1x protocols.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics dot1x</a>
<b>Tree</b>	<a href="#">dot1x</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**in-trap-to-cpu-packets** *number*

<b>Description</b>	System level incoming 802.1x frames copied to CPU. Cumulative of all Ethernet interfaces including all the copy-to-cpu 802.1x frames. 802.1x frames are identified by a destination MAC value of 01:80:c2:00:00:03 and EtherType value of 0x888e.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics dot1x in-trap-to-cpu-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-trap-to-cpu-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**in-tunneled-packets** *number*

<b>Description</b>	System level incoming 802.1x tunneled frames. Cumulative of all Ethernet interfaces including all the tunneled 802.1x frames. 802.1x frames are identified by a destination MAC value of 01:80:c2:00:00:03 and EtherType value of 0x888e.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics dot1x in-tunneled-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-tunneled-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the LACP counters were cleared.
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<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics dot1x last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## lACP

<b>Description</b>	Container for LACP.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lACP</a>
<b>Tree</b>	<a href="#">lACP</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## in-trap-to-cpu-packets *number*

<b>Description</b>	System level incoming Link Aggregation Control Protocol frames copied to CPU.  Cumulative of all Ethernet interfaces including all the copy-to-cpu LACP frames. LACP frames are identified by a destination MAC value of 01:80:c2:00:00:02, EtherType value of 0x8809 and slow protocol subtype 0x1.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lACP in-trap-to-cpu-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-trap-to-cpu-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## in-tunneled-packets *number*

<b>Description</b>	System level incoming Link Aggregation Control Protocol tunneled frames.  Cumulative of all Ethernet interfaces including all the tunneled LACP frames. LACP frames are identified by a destination MAC value of 01:80:c2:00:00:02, EtherType value of 0x8809 and slow protocol subtype 0x1.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lACP in-tunneled-packets</a> <i>number</i>

<b>Tree</b>	<a href="#">in-tunneled-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-clear string**

<b>Description</b>	Timestamp of the last time the LACP counters were cleared.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lacp last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-clear string**

<b>Description</b>	Timestamp of the last time the L2CP counters were cleared.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**lldp**

<b>Description</b>	Container for LLDP.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lldp</a>
<b>Tree</b>	<a href="#">lldp</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2



**in-trap-to-cpu-packets** *number*

<b>Description</b>	System level incoming Link Layer Discovery Protocol frames copied to CPU. Cumulative of all Ethernet interfaces including all the copy-to-cpu LLDP frames. LLDP frames are identified by a destination MAC value of 01:80:c2:00:00:0e and EtherType value of 0x88cc.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lldp in-trap-to-cpu-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-trap-to-cpu-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**in-tunneled-packets** *number*

<b>Description</b>	System level incoming Link Layer Discovery Protocol tunneled frames. Cumulative of all Ethernet interfaces including all the tunneled LLDP frames. LLDP frames are identified by a destination MAC value of 01:80:c2:00:00:0e and EtherType value of 0x88cc.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lldp in-tunneled-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-tunneled-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the LACP counters were cleared.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics lldp last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**ptp**

<b>Description</b>	Container for Precision Time Protocol Peer-Delay protocol.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics ptp</a>
<b>Tree</b>	<a href="#">ptp</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**in-trap-to-cpu-packets** *number*

<b>Description</b>	System level incoming Precision Time Protocol Peer-Delay frames copied to CPU.  Cumulative of all Ethernet interfaces including all the copy-to-cpu PTP frames. PTP frames are identified by a destination MAC value of 01:80:c2:00:00:0e and Ethertype value of 0x88F7.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics ptp in-trap-to-cpu-packets number</a>
<b>Tree</b>	<a href="#">in-trap-to-cpu-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**in-tunneled-packets** *number*

<b>Description</b>	System level incoming Precision Time Protocol Peer-Delay tunneled frames.  Cumulative of all Ethernet interfaces including all the tunneled PTP frames. PTP frames are identified by a destination MAC value of 01:80:c2:00:00:0e and Ethertype value of 0x88F7.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics ptp in-tunneled-packets number</a>
<b>Tree</b>	<a href="#">in-tunneled-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**last-clear** *string*

<b>Description</b>	Timestamp of the last time the PTP counters were cleared.
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<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics ptp last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **total-in-discarded-packets** *number*

<b>Description</b>	System level incoming L2CP discarded frames. Cumulative of all Ethernet interfaces including all the discarded L2CP frames. L2CP frames are identified by a destination MAC value of 01:80:c2:00:00:0X or 01:80:c2:00:00:2X, being X any value in the 0..F range.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics total-in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">total-in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **total-in-packets** *number*

<b>Description</b>	System level total incoming L2CP frames. Cumulative of all Ethernet interfaces including the tunneled, discarded and copy-to-cpu L2CP frames. L2CP frames are identified by a destination MAC value of 01:80:c2:00:00:0X or 01:80:c2:00:00:2X, being X any value in the 0..F range.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics total-in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">total-in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **total-in-trap-to-cpu-packets** *number*

<b>Description</b>	System level incoming L2CP copy-to-cpu frames.
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Cumulative of all Ethernet interfaces including all the L2CP frames that are copied to CPU. L2CP frames are identified by a destination MAC value of 01:80:c2:00:00:0X or 01:80:c2:00:00:2X, being X any value in the 0..F range.

<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics total-in-trap-to-cpu-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">total-in-trap-to-cpu-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **total-in-tunneled-packets** *number*

<b>Description</b>	System level incoming L2CP tunneled frames. Cumulative of all Ethernet interfaces including all the tunneled L2CP frames. L2CP frames are identified by a destination MAC value of 01:80:c2:00:00:0X or 01:80:c2:00:00:2X, being X any value in the 0..F range.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics total-in-tunneled-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">total-in-tunneled-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **xstp**

<b>Description</b>	Container for Spanning Tree Protocols.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics xstp</a>
<b>Tree</b>	<a href="#">xstp</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **in-trap-to-cpu-packets** *number*

<b>Description</b>	System level incoming Spanning Tree Protocol frames copied to CPU. Cumulative of all Ethernet interfaces including all the copy-to-cpu Spanning Tree frames. Spanning Tree frames are identified by a destination MAC value of 01:80:c2:00:00:00 and LLC value 0x42.
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<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics xstp in-trap-to-cpu-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-trap-to-cpu-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **in-tunneled-packets** *number*

<b>Description</b>	System level incoming Spanning Tree tunneled frames. Cumulative of all Ethernet interfaces including all the tunneled Spanning Tree frames. xSTP frames are identified by a destination MAC value of 01:80:c2:00:00:00 and LLC value 0x42.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics xstp in-tunneled-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-tunneled-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **last-clear** *string*

<b>Description</b>	Timestamp of the last time the xSTP counters were cleared.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-statistics xstp last-clear</a> <i>string</i>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **lACP**

<b>Description</b>	Enter the lACP context
<b>Context</b>	<a href="#">system lACP</a>
<b>Tree</b>	<a href="#">lACP</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### system-id *string*

**Description** The MAC address portion of the node's System ID. This is combined with the system priority to construct the 8-octet system-id

**Context** [system lacp system-id string](#)

**Tree** [system-id](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### system-priority *number*

**Description** System priority used by the node on this LAG interface. Lower value is higher priority for determining which node is the controlling system.

**Context** [system lacp system-priority number](#)

**Tree** [system-priority](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### license *id string*

**Description** List of licenses configured on the system

**Context** [system license id string](#)

**Tree** [license](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**Max. Elements** 5

**id string**

<b>Description</b>	Unique identifier for this license
<b>Context</b>	<a href="#">system license id string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**admin-state keyword**

<b>Description</b>	Enable or disable the use of this license
<b>Context</b>	<a href="#">system license id string admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**data string**

<b>Description</b>	<p>Content of the license</p> <p>This content includes a preceding UUID, followed by a space and the license data.</p> <p>For example: 00000000-0000-0000-0000-000000000000 aACUAX...r YzNRPT0AAAAA</p>
<b>Context</b>	<a href="#">system license id string data string</a>
<b>Tree</b>	<a href="#">data</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**description** *string*

<b>Description</b>	A user provided description for the license
<b>Context</b>	<a href="#">system license id</a> <i>string</i> <a href="#">description</a> <i>string</i>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**expiration-date** *string*

<b>Description</b>	Date and time the license will expire
<b>Context</b>	<a href="#">system license id</a> <i>string</i> <a href="#">expiration-date</a> <i>string</i>
<b>Tree</b>	<a href="#">expiration-date</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**expired** *boolean*

<b>Description</b>	Indicates if the license has expired
<b>Context</b>	<a href="#">system license id</a> <i>string</i> <a href="#">expired</a> <i>boolean</i>
<b>Tree</b>	<a href="#">expired</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**in-use** *boolean*

<b>Description</b>	Indicates if the license is actively in use
<b>Context</b>	<a href="#">system license id</a> <i>string</i> <a href="#">in-use</a> <i>boolean</i>
<b>Tree</b>	<a href="#">in-use</a>
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **issued-date** *string*

**Description** Date and time the license was issued

**Context** [system license id](#) *string* [issued-date](#) *string*

**Tree** [issued-date](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **preferred** *boolean*

**Description** Set a license as being preferred

Amongst all valid licenses, the preferred license will be chosen to become active. If no license is set as preferred or the preferred license is not valid, the valid license with the most distant expiry is chosen to become active.

Only a single license can be set as preferred.

**Context** [system license id](#) *string* [preferred](#) *boolean*

**Tree** [preferred](#)

**Default** false

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **valid** *boolean*

**Description** Indicates if the license is valid for use

**Context** [system license id](#) *string* [valid](#) *boolean*

**Tree** [valid](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## Ildp

<b>Description</b>	Top-level container for LLDP configuration and state data
<b>Context</b>	<a href="#">system Ildp</a>
<b>Tree</b>	<a href="#">Ildp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### admin-state *keyword*

<b>Description</b>	Enable or disable LLDP at the system level
<b>Context</b>	<a href="#">system Ildp admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### chassis-id *string*

<b>Description</b>	The Chassis ID is a mandatory TLV which identifies the chassis component of the endpoint identifier associated with the transmitting LLDP agent
<b>Context</b>	<a href="#">system Ildp chassis-id string</a>
<b>Tree</b>	<a href="#">chassis-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### chassis-id-type *keyword*

<b>Description</b>	<p>The source for the chassis identifier string</p> <p>It is an enumerator defined by the LldpChassisIdSubtype object from IEEE 802.1AB MIB.</p>
<b>Context</b>	<a href="#">system Ildp chassis-id-type keyword</a>
<b>Tree</b>	<a href="#">chassis-id-type</a>
<b>Default</b>	MAC_ADDRESS

**Options**

- **CHASSIS\_COMPONENT**  
Chassis identifier based on the value of entPhysicalAlias object defined in IETF RFC 2737
- **INTERFACE\_ALIAS**  
Chassis identifier based on the value of ifAlias object defined in IETF RFC 2863
- **PORT\_COMPONENT**  
Chassis identifier based on the value of entPhysicalAlias object defined in IETF RFC 2737 for a port or backplane component
- **MAC\_ADDRESS**  
Chassis identifier based on the value of a unicast source address (encoded in network byte order and IEEE 802.3 canonical bit order), of a port on the containing chassis as defined in IEEE Std 802-2001
- **NETWORK\_ADDRESS**  
Chassis identifier based on a network address, associated with a particular chassis. The encoded address is composed of two fields. The first field is a single octet, representing the IANA AddressFamilyNumbers value for the specific address type, and the second field is the network address value
- **INTERFACE\_NAME**  
Chassis identifier based on the name of the interface, e.g., the value of if Name object defined in IETF RFC 2863
- **LOCAL**  
Chassis identifier based on a locally defined value

**Configurable**

False

**Platforms**

Supported on all platforms

**hello-timer *number*****Description**

System level hello timer for the LLDP protocol

**Context**[system lldp hello-timer \*number\*](#)**Tree**[hello-timer](#)**Default**

30

**Units**

seconds

**Configurable**

True

**Platforms**

Supported on all platforms

**hold-multiplier** *number*

<b>Description</b>	System level hold multiplier, used to define neighbor aging This field defines how many hellos need to be missed before a neighbor is aged out. This field also is used along with the 'hello-timer' field to define the TTL TLV in outgoing LLDPDU's.
<b>Context</b>	<a href="#">system lldp hold-multiplier</a> <i>number</i>
<b>Tree</b>	<a href="#">hold-multiplier</a>
<b>Default</b>	4
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface** *name reference*

<b>Description</b>	List of interfaces on which LLDP can be enabled
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *reference*

<b>Description</b>	Reference to the LLDP Ethernet interface
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i>
<b>Reference</b>	<a href="#">interface name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**admin-state** *keyword*

<b>Description</b>	Enable or disable LLDP on the interface
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**neighbor id string**

<b>Description</b>	List of LLDP neighbors on this interface
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id string</a>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**id string**

<b>Description</b>	System generated identifier for the remote neighbor
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id string</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**capability name identityref**

<b>Description</b>	List of LLDP system capabilities advertised by the neighbor
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id string</a> <a href="#">capability name identityref</a>
<b>Tree</b>	<a href="#">capability</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name identityref**

<b>Description</b>	Name of the system capability advertised by the neighbor Capabilities are represented in a bitmap that defines the primary functions of the system. The capabilities are defined in IEEE 802.1AB.
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id string</a> <a href="#">capability name identityref</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• OTHER Other capability not specified; bit position 1</li> <li>• REPEATER</li> </ul>

- Repeater capability; bit position 2
- MAC\_BRIDGE  
MAC bridge capability; bit position 3
- WLAN\_ACCESS\_POINT  
WLAN access point capability; bit position 4
- ROUTER  
Router; bit position 5
- TELEPHONE  
Telephone capability; bit position 6
- DOCSIS\_CABLE\_DEVICE  
DOCSIS cable device; bit position 7
- STATION\_ONLY  
Station only capability, for devices that implement only an end station capability, and for which none of the other capabilities apply; bit position 8
- C\_VLAN  
C-VLAN component of a VLAN Bridge; bit position 9
- S\_VLAN  
S-VLAN component of a VLAN Bridge; bit position 10
- TWO\_PORT\_MAC\_RELAY  
Two-port MAC Relay (TPMR) capability; bit position 11

**Configurable**

False

**Platforms**

Supported on all platforms

**enabled *boolean*****Description**

Indicates whether the corresponding system capability is enabled on the neighbor

**Context**[system lldp interface name](#) *reference* [neighbor id string](#) [capability name identityref](#) *enabled boolean***Tree**[enabled](#)**Configurable**

False

**Platforms**

Supported on all platforms

**chassis-id *string*****Description**

The chassis ID of the remote neighbor

The Chassis ID is a mandatory TLV which identifies the chassis component of the endpoint identifier associated with the transmitting LLDP agent

<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">chassis-id</a> <i>string</i>
<b>Tree</b>	<a href="#">chassis-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **chassis-id-type** *keyword*

<b>Description</b>	<p>The type of identifier used in the chassis-id field</p> <p>This field identifies the format and source of the chassis identifier string. It is an enumerator defined by the LldpChassisIdSubtype object from IEEE 802.1AB MIB.</p>
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">chassis-id-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">chassis-id-type</a>
<b>Default</b>	MAC_ADDRESS
<b>Options</b>	<ul style="list-style-type: none"> <li>• CHASSIS_COMPONENT Chassis identifier based on the value of entPhysicalAlias object defined in IETF RFC 2737</li> <li>• INTERFACE_ALIAS Chassis identifier based on the value of ifAlias object defined in IETF RFC 2863</li> <li>• PORT_COMPONENT Chassis identifier based on the value of entPhysicalAlias object defined in IETF RFC 2737 for a port or backplane component</li> <li>• MAC_ADDRESS Chassis identifier based on the value of a unicast source address (encoded in network byte order and IEEE 802.3 canonical bit order), of a port on the containing chassis as defined in IEEE Std 802-2001</li> <li>• NETWORK_ADDRESS Chassis identifier based on a network address, associated with a particular chassis. The encoded address is composed of two fields. The first field is a single octet, representing the IANA AddressFamilyNumbers value for the specific address type, and the second field is the network address value</li> <li>• INTERFACE_NAME Chassis identifier based on the name of the interface, e.g., the value of ifName object defined in IETF RFC 2863</li> <li>• LOCAL</li> </ul>

Chassis identifier based on a locally defined value

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **custom-tlv** *type number oui string oui-subtype string*

<b>Description</b>	List of custom LLDP TLVs from a neighbor
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">custom-tlv type number</a> <i>string</i> <a href="#">oui</a> <i>string</i> <a href="#">oui-subtype</a> <i>string</i>
<b>Tree</b>	<a href="#">custom-tlv</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **type** *number*

<b>Description</b>	The integer value identifying the type of information contained in the value field.
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">custom-tlv type number</a> <i>string</i> <a href="#">oui</a> <i>string</i> <a href="#">oui-subtype</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oui** *string*

<b>Description</b>	The organizationally unique identifier field from the custom TLV This field shall contain the organization's OUI as defined in Clause 9 of IEEE Std 802. The high-order octet is 0 and the low-order 3 octets are the SMI Network Management Private Enterprise Code of the Vendor in network byte order, as defined in the 'Assigned Numbers' RFC [RFC3232].
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">custom-tlv type number</a> <i>string</i> <a href="#">oui</a> <i>string</i> <a href="#">oui-subtype</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oui-subtype** *string*

<b>Description</b>	The subtype value defined by the OUI for this custom TLV
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The organizationally defined subtype field shall contain a unique subtype value assigned by the defining organization.

<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">custom-tlv type number</a> <a href="#">oui</a> <i>string</i> <a href="#">oui-subtype</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### value *binary*

<b>Description</b>	A variable-length octet-string containing the value for this TLV
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">custom-tlv type number</a> <a href="#">oui</a> <i>string</i> <a href="#">oui-subtype</a> <i>string</i> <a href="#">value</a> <i>binary</i>
<b>Tree</b>	<a href="#">value</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### first-message *string*

<b>Description</b>	Date and time of the first message from neighbor
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">first-message</a> <i>string</i>
<b>Tree</b>	<a href="#">first-message</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### last-update *string*

<b>Description</b>	Date and time of the last update from neighbor
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### management-address [address](#) *string*

<b>Description</b>	List of management addresses received from the remote LLDP neighbor
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<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">management-address</a> <i>address</i> <i>string</i>
<b>Tree</b>	<a href="#">management-address</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**address** *string*

<b>Description</b>	The management address received from the remote LLDP neighbor The Management Address is a mandatory TLV which identifies a network address associated with the LLDP agent, which can be used to reach the agent on the port identified in the Port ID TLV.
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">management-address</a> <i>address</i> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	The type of management address referenced in the address field The enumerated value for the network address type identified in this TLV. This enumeration is defined in the 'Assigned Numbers' RFC [RFC3232] and the ianaAddressFamilyNumbers object.
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">management-address</a> <i>address</i> <i>string</i> <i>type</i> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• IPv4 Use IPv4 address for management address type</li> <li>• IPv6 Use IPv6 address for management address type</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**port-description** *string*

<b>Description</b>	The description of the port referenced in the port-id field
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The binary string containing the actual port identifier for the port which this LLDP PDU was transmitted. The source and format of this field is defined by PtopoPortId from RFC2922.

<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">port-description</a> <i>string</i>
<b>Tree</b>	<a href="#">port-description</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **port-id** (*string | binary*)

<b>Description</b>	The Port ID of the remote neighbor  The Port ID is a mandatory TLV which identifies the port component of the endpoint identifier associated with the transmitting LLDP agent. If the specified port is an IEEE 802.3 Repeater port, then this TLV is optional.
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">port-id</a> ( <i>string   binary</i> )
<b>Tree</b>	<a href="#">port-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **port-id-type** *keyword*

<b>Description</b>	The type of identifier used in the port-id field  This field identifies the format and source of the port identifier string. It is an enumerator defined by the PtopoPortIdType object from RFC2922.
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">port-id-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">port-id-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>INTERFACE_ALIAS</b> Chassis identifier based on the value of ifAlias object defined in IETF RFC 2863</li> <li>• <b>PORT_COMPONENT</b> Port identifier based on the value of entPhysicalAlias object defined in IETF RFC 2737 for a port component</li> <li>• <b>MAC_ADDRESS</b> Port identifier based on the value of a unicast source address (encoded in network byte order and IEEE 802.3 canonical bit order) associated with a port</li> <li>• <b>NETWORK_ADDRESS</b></li> </ul>

- Port identifier based on a network address, associated with a particular port
- **INTERFACE\_NAME**  
Port identifier based on the name of the interface, e.g., the value of if Name object defined in IETF RFC 2863
- **AGENT\_CIRCUIT\_ID**  
Port identifier based on the circuit id in the DHCP relay agent information option as defined in IETF RFC 3046
- **LOCAL**  
Port identifier based on a locally defined alphanumeric string

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### system-description *string*

<b>Description</b>	<p>The system description of the remote neighbor</p> <p>The system description field shall contain an alpha-numeric string that is the textual description of the network entity. The system description should include the full name and version identification of the system's hardware type, software operating system, and networking software. If implementations support IETF RFC 3418, the sysDescr object should be used for this field.</p>
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">system-description</a> <i>string</i>
<b>Tree</b>	<a href="#">system-description</a>
<b>String Length</b>	0 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### system-name *string*

<b>Description</b>	<p>The administratively assigned name of the remote neighbor</p> <p>The system name field shall contain an alpha-numeric string that indicates the system's administratively assigned name. The system name should be the system's fully qualified domain name. If implementations support IETF RFC 3418, the sysName object should be used for this field.</p>
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">neighbor id</a> <i>string</i> <a href="#">system-name</a> <i>string</i>
<b>Tree</b>	<a href="#">system-name</a>
<b>String Length</b>	0 to 255

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details the operational state of LLDP on the interface
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting</li> </ul>

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	LLDP counters on each interface
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## frame-discard *number*

<b>Description</b>	The number of LLDP frames received and discarded
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics frame-discard</a> <i>number</i>
<b>Tree</b>	<a href="#">frame-discard</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## frame-error-in *number*

<b>Description</b>	The number of LLDP frames received with errors
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics frame-error-in</a> <i>number</i>
<b>Tree</b>	<a href="#">frame-error-in</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## frame-error-out *number*

<b>Description</b>	The number of frame transmit errors on the interface
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics frame-error-out</a> <i>number</i>

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<b>Tree</b>	<a href="#">frame-error-out</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**frame-in number**

<b>Description</b>	The number of LLDP frames received
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics frame-in number</a>
<b>Tree</b>	<a href="#">frame-in</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**frame-out number**

<b>Description</b>	The number of LLDP frames transmitted
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics frame-out number</a>
<b>Tree</b>	<a href="#">frame-out</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-clear string**

<b>Description</b>	Indicates the last time the counters were cleared
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics last-clear string</a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tlv-discard number**

<b>Description</b>	The number of TLV frames received and discarded
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics tlv-discard number</a>

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<b>Tree</b>	<a href="#">tlv-discard</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**tlv-unknown** *number*

<b>Description</b>	The number of frames received with unknown TLV
<b>Context</b>	<a href="#">system lldp interface name</a> <i>reference</i> <a href="#">statistics tlv-unknown</a> <i>number</i>
<b>Tree</b>	<a href="#">tlv-unknown</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**management-address** [subinterface](#) *string*

<b>Description</b>	List of subinterfaces to source management addresses from This list is sent in the management address TLV by LLDP.
<b>Context</b>	<a href="#">system lldp management-address subinterface</a> <i>string</i>
<b>Tree</b>	<a href="#">management-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subinterface** *string*

<b>Description</b>	Reference to the subinterface to source management addresses
<b>Context</b>	<a href="#">system lldp management-address subinterface</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	Types of addresses sent in the management address TLV
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The enumerated value for the network address type identified in this TLV. This enumeration is defined in the 'Assigned Numbers' RFC [RFC3232] and the `ianaAddressFamilyNumbers` object.

<b>Context</b>	<a href="#">system lldp management-address subinterface string type keyword</a>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• IPv4 Use IPv4 address for management address type</li> <li>• IPv6 Use IPv6 address for management address type</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Global LLDP counters
<b>Context</b>	<a href="#">system lldp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## entries-aged-out *number*

<b>Description</b>	The number of entries aged out due to timeout.
<b>Context</b>	<a href="#">system lldp statistics entries-aged-out number</a>
<b>Tree</b>	<a href="#">entries-aged-out</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## frame-discard *number*

<b>Description</b>	The number of LLDP frames received and discarded
<b>Context</b>	<a href="#">system lldp statistics frame-discard number</a>
<b>Tree</b>	<a href="#">frame-discard</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **frame-error-in** *number*

**Description** The number of LLDP frames received with errors  
**Context** [system lldp statistics frame-error-in](#) *number*  
**Tree** [frame-error-in](#)  
**Default** 0  
**Configurable** False  
**Platforms** Supported on all platforms

### **frame-in** *number*

**Description** The number of LLDP frames received  
**Context** [system lldp statistics frame-in](#) *number*  
**Tree** [frame-in](#)  
**Default** 0  
**Configurable** False  
**Platforms** Supported on all platforms

### **frame-out** *number*

**Description** The number of LLDP frames transmitted  
**Context** [system lldp statistics frame-out](#) *number*  
**Tree** [frame-out](#)  
**Default** 0  
**Configurable** False  
**Platforms** Supported on all platforms

### **last-clear** *string*

**Description** Indicates the last time the counters were cleared  
**Context** [system lldp statistics last-clear](#) *string*  
**Tree** [last-clear](#)  
**String Length** 20 to 32  
**Configurable** False

**Platforms** Supported on all platforms

### **tlv-accepted** *number*

**Description** The number of valid TLVs received.

**Context** [system lldp statistics tlv-accepted number](#)

**Tree** [tlv-accepted](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **tlv-discard** *number*

**Description** The number of TLV frames received and discarded

**Context** [system lldp statistics tlv-discard number](#)

**Tree** [tlv-discard](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **tlv-unknown** *number*

**Description** The number of frames received with unknown TLV

**Context** [system lldp statistics tlv-unknown number](#)

**Tree** [tlv-unknown](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **system-description** *string*

**Description** Field detailing system description, including name and versions

The system description field shall contain an alpha-numeric string that is the textual description of the network entity. The system description should include the full name and version identification of the system's hardware type, software operating system, and networking software.

**Context** [system lldp system-description string](#)

<b>Tree</b>	<a href="#">system-description</a>
<b>String Length</b>	0 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **system-name** *string*

<b>Description</b>	The systems administratively assigned name  The system name field shall contain an alpha-numeric string that indicates the system's administratively assigned name. The system name should be the system's fully qualified domain name.
<b>Context</b>	<a href="#">system lldp system-name</a> <i>string</i>
<b>Tree</b>	<a href="#">system-name</a>
<b>String Length</b>	0 to 255
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **trace-options** *keyword*

<b>Description</b>	LLDP trace options
<b>Context</b>	<a href="#">system lldp trace-options</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• received</li> <li>• transmitted</li> <li>• common</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **load-balancing**

<b>Description</b>	Adjust system-wide ECMP load balancing options.
<b>Context</b>	<a href="#">system load-balancing</a>
<b>Tree</b>	<a href="#">load-balancing</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hash-options

<b>Description</b>	Container for packet header fields and other inputs used in hashing calculations
<b>Context</b>	<a href="#">system load-balancing hash-options</a>
<b>Tree</b>	<a href="#">hash-options</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## destination-address *boolean*

<b>Description</b>	Include the destination IP address in the hash calculation
<b>Context</b>	<a href="#">system load-balancing hash-options destination-address <i>boolean</i></a>
<b>Tree</b>	<a href="#">destination-address</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## destination-port *boolean*

<b>Description</b>	Include the destination TCP/UDP port number in the hash calculation if the packet is an unfragmented IP packet carrying a TCP/UDP payload
<b>Context</b>	<a href="#">system load-balancing hash-options destination-port <i>boolean</i></a>
<b>Tree</b>	<a href="#">destination-port</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## hash-seed *number*

<b>Description</b>	A configured hash seed to override the default value of 0  Different routers can be configured with different hash-seed values to minimize traffic polarization effects. This hash-seed is used by all hash-related CRC calculations including those that take IP header fields, those that take Ethernet header fields and those that take MPLS labels.
<b>Context</b>	<a href="#">system load-balancing hash-options hash-seed <i>number</i></a>
<b>Tree</b>	<a href="#">hash-seed</a>

<b>Default</b>	0
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **ipv6-flow-label** *boolean*

<b>Description</b>	<p>Include the IPv6 flow label in the hash calculation if the packet is an IPv6 packet</p> <p>It is expected that the IPv6 flow label value is written by the server or other host originating the flow and not changed by any intermediate switch or router.</p>
<b>Context</b>	<a href="#">system load-balancing hash-options ipv6-flow-label</a> <i>boolean</i>
<b>Tree</b>	<a href="#">ipv6-flow-label</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **mpls-label-stack** *boolean*

<b>Description</b>	Include the received labels (terminated and non-terminated) in the hash calculation
<b>Context</b>	<a href="#">system load-balancing hash-options mpls-label-stack</a> <i>boolean</i>
<b>Tree</b>	<a href="#">mpls-label-stack</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **protocol** *boolean*

<b>Description</b>	Include the IP protocol number in the hash calculation. For an IPv6 packet this is protocol value in the next-header field of the last extension header.
<b>Context</b>	<a href="#">system load-balancing hash-options protocol</a> <i>boolean</i>
<b>Tree</b>	<a href="#">protocol</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-address** *boolean*

<b>Description</b>	Include the source IP address in the hash calculation
<b>Context</b>	<a href="#">system load-balancing hash-options source-address</a> <i>boolean</i>
<b>Tree</b>	<a href="#">source-address</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-port** *boolean*

<b>Description</b>	Include the source TCP/UDP port number in the hash calculation if the packet is an unfragmented IP packet carrying a TCP/UDP payload
<b>Context</b>	<a href="#">system load-balancing hash-options source-port</a> <i>boolean</i>
<b>Tree</b>	<a href="#">source-port</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**vlan** *boolean*

<b>Description</b>	Include the received VLAN ID in the hash calculation
<b>Context</b>	<a href="#">system load-balancing hash-options vlan</a> <i>boolean</i>
<b>Tree</b>	<a href="#">vlan</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D1, 7220 IXR-H4, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D3, 7220 IXR-D2, 7220 IXR-H3

**logging**

<b>Description</b>	System logging provides the interface to syslog services to setup output entities on a selection of log sources.
<b>Context</b>	<a href="#">system logging</a>
<b>Tree</b>	<a href="#">logging</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **buffer** *buffer-name string*

**Description** Log files maintained in memory, non-persistent across system reboots  
These files are stored at directory `/var/log/srlinux/buffer`. Rotation into multiple files is available.

**Context** [system logging buffer buffer-name string](#)

**Tree** [buffer](#)

**Configurable** True

**Platforms** Supported on all platforms

### **buffer-name** *string*

**Description** Base name of the file(s) to be stored in memory

**Context** [system logging buffer buffer-name string](#)

**Configurable** True

**Platforms** Supported on all platforms

### **facility** *facility-name keyword*

**Description** List of facilities to source messages from

**Context** [system logging buffer buffer-name string facility facility-name keyword](#)

**Tree** [facility](#)

**Configurable** True

**Platforms** Supported on all platforms

### **facility-name** *keyword*

**Description** Name of a Linux syslog facility

**Context** [system logging buffer buffer-name string facility facility-name keyword](#)

**Options**

- auth
- authpriv
- cron
- daemon
- ftp



- kern
- lpr
- mail
- news
- syslog
- user
- uucp
- local0
- local1
- local2
- local3
- local4
- local5
- local6
- local7

**Configurable**

True

**Platforms**

Supported on all platforms

**priority****Description**

Narrows the capture to a given severity, a range or a specific set of severities

**Context**[system logging buffer buffer-name](#) *string* [facility facility-name](#) *keyword*  
[priority](#)**Tree**[priority](#)**Configurable**

True

**Platforms**

Supported on all platforms

**match-above** *keyword***Description**

At a given severity and above

**Context**[system logging buffer buffer-name](#) *string* [facility facility-name](#) *keyword*  
[priority match-above](#) *keyword***Tree**[match-above](#)**Options**

- emergency
- alert
- critical
- error

	<ul style="list-style-type: none"> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">facility facility-name</a> <i>keyword</i> <a href="#">priority match-exact</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **filter** *reference*

<b>Description</b>	A set of all-matching criteria that messages must fulfill in order to be captured
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">filter</a> <i>reference</i>
<b>Tree</b>	<a href="#">filter</a>
<b>Reference</b>	<a href="#">system logging filter filter-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**format** *string*

<b>Description</b>	Text format of the output syslog messages, in legacy syslog \$template style
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <b>format</b> <i>string</i>
<b>Tree</b>	<a href="#">format</a>
<b>Default</b>	%TIMEGENERATED:::date-rfc3339% %HOSTNAME% %SYSLOGTAG% %MSG:::sp-if-no-1st-sp%%MSG:::drop-last-lf%\n
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**persist** *number*

<b>Description</b>	Time in seconds to shadow the buffer to persistent storage  Setting this field to 0 results in the buffer not being persisted. A value other than 0 will result in the log being persisted to disk based on the configured value. Logs with a non-zero persist value are persisted automatically on rollover, or at the configured value.
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <b>persist</b> <i>number</i>
<b>Tree</b>	<a href="#">persist</a>
<b>Range</b>	0   60 to 604800
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rotate** *number*

<b>Description</b>	Number of files to keep in rotation when a maximum file size is reached
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <b>rotate</b> <i>number</i>
<b>Tree</b>	<a href="#">rotate</a>
<b>Default</b>	4
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rotations** *number*

<b>Description</b>	Number of file rotations occurred
--------------------	-----------------------------------

<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">rotations</a> <i>number</i>
<b>Tree</b>	<a href="#">rotations</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**size** *string*

<b>Description</b>	Number of bytes an individual output file cannot exceed The field allows the 'K, M, or G' suffixes as shorthand. When reaching that size, a rotation happens and subsequent data is stored in a new file with the same base name.
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">size</a> <i>string</i>
<b>Tree</b>	<a href="#">size</a>
<b>Default</b>	10M
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subsystem** [subsystem-name](#) *keyword*

<b>Description</b>	Entity or entities that may produce messages to be captured
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">subsystem</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subsystem-name** *keyword*

<b>Description</b>	Reference to an available subsystem to source messages from
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• aaa</li> <li>• accounting</li> <li>• acl</li> <li>• app</li> <li>• arpd</li> </ul>

- 
- bfd
  - bgp
  - bridgetable
  - chassis
  - debug
  - dhcp
  - ethcfm
  - evpn
  - fib
  - gnmi
  - gribi
  - igmp
  - isis
  - json
  - lag
  - ldp
  - license
  - linux
  - lldp
  - log
  - mgmt
  - mirror
  - mld
  - mpls
  - netinst
  - ospf
  - p4rt
  - pcc
  - pim
  - platform
  - policy
  - qos
  - sdk
  - sflow
  - staticroute
  - sync

	<ul style="list-style-type: none"> <li>• twamp</li> <li>• vxlan</li> <li>• xdp</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## priority

<b>Description</b>	Narrows the capture to a given severity, a range or a specific set of severities
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority</a>
<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## match-above *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority match-above</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## match-exact *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging buffer buffer-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority match-exact</a> <i>keyword</i>

---

<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## console

<b>Description</b>	Hardware serial device normally used for bring-up and diagnostics
<b>Context</b>	<a href="#">system logging console</a>
<b>Tree</b>	<a href="#">console</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## facility [facility-name](#) *keyword*

<b>Description</b>	List of facilities to source messages from
<b>Context</b>	<a href="#">system logging console facility facility-name keyword</a>
<b>Tree</b>	<a href="#">facility</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## facility-name *keyword*

<b>Description</b>	Name of a Linux syslog facility
<b>Context</b>	<a href="#">system logging console facility facility-name keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auth</li> <li>• authpriv</li> <li>• cron</li> <li>• daemon</li> </ul>

- ftp
- kern
- lpr
- mail
- news
- syslog
- user
- uucp
- local0
- local1
- local2
- local3
- local4
- local5
- local6
- local7

**Configurable**

True

**Platforms**

Supported on all platforms

**priority****Description**

Narrows the capture to a given severity, a range or a specific set of severities

**Context**[system logging console facility facility-name keyword priority](#)**Tree**[priority](#)**Configurable**

True

**Platforms**

Supported on all platforms

**match-above *keyword*****Description**

At a given severity and above

**Context**[system logging console facility facility-name keyword priority match-above keyword](#)**Tree**[match-above](#)**Options**

- emergency
- alert
- critical



- error
- warning
- notice
- informational
- debug

**Configurable**

True

**Platforms**

Supported on all platforms

**match-exact** *keyword***Description**

Individually specified severities

**Context**[system logging console facility facility-name keyword priority match-exact keyword](#)**Tree**[match-exact](#)**Options**

- emergency
- alert
- critical
- error
- warning
- notice
- informational
- debug

**Configurable**

True

**Platforms**

Supported on all platforms

**filter** *reference***Description**

A set of all-matching criteria that messages must fulfill in order to be captured

**Context**[system logging console filter reference](#)**Tree**[filter](#)**Reference**[system logging filter filter-name string](#)**Configurable**

True

**Platforms**

Supported on all platforms

**format *string***

<b>Description</b>	Text format of the output syslog messages, in legacy syslog \$template style
<b>Context</b>	<a href="#">system logging console format <i>string</i></a>
<b>Tree</b>	<a href="#">format</a>
<b>Default</b>	%TIMEGENERATED:::date-rfc3339% %HOSTNAME% %SYSLOGTAG% %MSG:::sp-if-no-1st-sp%%MSG:::drop-last-lf%\n
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subsystem [subsystem-name](#) *keyword***

<b>Description</b>	Entity or entities that may produce messages to be captured
<b>Context</b>	<a href="#">system logging console subsystem <a href="#">subsystem-name</a> <i>keyword</i></a>
<b>Tree</b>	<a href="#">subsystem</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**[subsystem-name](#) *keyword***

<b>Description</b>	Reference to an available subsystem to source messages from
<b>Context</b>	<a href="#">system logging console subsystem <a href="#">subsystem-name</a> <i>keyword</i></a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• aaa</li> <li>• accounting</li> <li>• acl</li> <li>• app</li> <li>• arpd</li> <li>• bfd</li> <li>• bgp</li> <li>• bridgetable</li> <li>• chassis</li> <li>• debug</li> <li>• dhcp</li> <li>• ethcfm</li> <li>• evpn</li> <li>• fib</li> <li>• gnmi</li> </ul>

- gribi
- igmp
- isis
- json
- lag
- ldp
- license
- linux
- lldp
- log
- mgmt
- mirror
- mld
- mpls
- netinst
- ospf
- p4rt
- pcc
- pim
- platform
- policy
- qos
- sdk
- sflow
- staticroute
- sync
- twamp
- vxlan
- xdp

**Configurable**

True

**Platforms**

Supported on all platforms

## priority

**Description**

Narrows the capture to a given severity, a range or a specific set of severities

**Context**

[system logging console subsystem subsystem-name keyword priority](#)

<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-above** *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging console subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority match-above</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging console subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority match-exact</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **file** *file-name string*

**Description** Log files maintained on disk, persistent across system reboots  
When a maximum file size is reached, the file is renamed and a maximum rotate number of them are kept.

**Context** [system logging file file-name string](#)

**Tree** [file](#)

**Configurable** True

**Platforms** Supported on all platforms

### **file-name** *string*

**Description** Base name of the file(s) to be stored on disk

**Context** [system logging file file-name string](#)

**Configurable** True

**Platforms** Supported on all platforms

### **directory** *string*

**Description** Fully qualified path of a directory where the log file(s) shall be maintained

**Context** [system logging file file-name string directory string](#)

**Tree** [directory](#)

**Default** /var/log/srlinux/file

**Configurable** True

**Platforms** Supported on all platforms

### **facility** *facility-name keyword*

**Description** List of facilities to source messages from

**Context** [system logging file file-name string facility facility-name keyword](#)

**Tree** [facility](#)

**Configurable** True

**Platforms** Supported on all platforms

**facility-name** *keyword*

<b>Description</b>	Name of a Linux syslog facility
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">facility</a> <a href="#">facility-name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auth</li> <li>• authpriv</li> <li>• cron</li> <li>• daemon</li> <li>• ftp</li> <li>• kern</li> <li>• lpr</li> <li>• mail</li> <li>• news</li> <li>• syslog</li> <li>• user</li> <li>• uucp</li> <li>• local0</li> <li>• local1</li> <li>• local2</li> <li>• local3</li> <li>• local4</li> <li>• local5</li> <li>• local6</li> <li>• local7</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**priority**

<b>Description</b>	Narrows the capture to a given severity, a range or a specific set of severities
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">facility</a> <a href="#">facility-name</a> <i>keyword</i> <a href="#">priority</a>
<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-above** *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">facility facility-name</a> <i>keyword</i> <a href="#">priority match-above</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">facility facility-name</a> <i>keyword</i> <a href="#">priority match-exact</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**filter** *reference*

<b>Description</b>	A set of all-matching criteria that messages must fulfill in order to be captured
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">filter reference</a>
<b>Tree</b>	<a href="#">filter</a>
<b>Reference</b>	<a href="#">system logging filter filter-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**format** *string*

<b>Description</b>	Text format of the output syslog messages, in legacy syslog \$template style
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">format string</a>
<b>Tree</b>	<a href="#">format</a>
<b>Default</b>	%TIMEGENERATED:::date- <a href="#">rfc3339</a> % %HOSTNAME% %SYSLOGTAG% %MSG:::sp-if-no-1st-sp%%MSG:::drop-last-lf%\n
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rotate** *number*

<b>Description</b>	Number of files to keep in rotation when a maximum file size is reached
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">rotate number</a>
<b>Tree</b>	<a href="#">rotate</a>
<b>Default</b>	4
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rotations** *number*

<b>Description</b>	Number of file rotations occurred
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">rotations number</a>
<b>Tree</b>	<a href="#">rotations</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms



**size** *string*

<b>Description</b>	Number of bytes an individual output file cannot exceed The field allows the 'K, M, or G' suffixes as shorthand. When reaching that size, a rotation happens and subsequent data is stored in a new file with the same base name.
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">size</a> <i>string</i>
<b>Tree</b>	<a href="#">size</a>
<b>Default</b>	10M
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subsystem** [subsystem-name](#) *keyword*

<b>Description</b>	Entity or entities that may produce messages to be captured
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">subsystem</a> <a href="#">subsystem-name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">subsystem</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subsystem-name** *keyword*

<b>Description</b>	Reference to an available subsystem to source messages from
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">subsystem</a> <a href="#">subsystem-name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• aaa</li> <li>• accounting</li> <li>• acl</li> <li>• app</li> <li>• arpd</li> <li>• bfd</li> <li>• bgp</li> <li>• bridgetable</li> <li>• chassis</li> <li>• debug</li> <li>• dhcp</li> <li>• ethcfm</li> </ul>

- evpn
- fib
- gnmi
- gribi
- igmp
- isis
- json
- lag
- ldp
- license
- linux
- lldp
- log
- mgmt
- mirror
- mld
- mpls
- netinst
- ospf
- p4rt
- pcc
- pim
- platform
- policy
- qos
- sdk
- sflow
- staticroute
- sync
- twamp
- vxlan
- xdp

**Configurable**  
**Platforms**

True  
Supported on all platforms

**priority**

<b>Description</b>	Narrows the capture to a given severity, a range or a specific set of severities
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority</a>
<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-above** *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority match-above</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging file file-name</a> <i>string</i> <a href="#">subsystem subsystem-name</a> <i>keyword</i> <a href="#">priority match-exact</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> </ul>

	<ul style="list-style-type: none"> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**filter** *filter-name string*

<b>Description</b>	Describes a set of criteria that captured messages are required to fulfill
<b>Context</b>	<a href="#">system logging filter filter-name string</a>
<b>Tree</b>	<a href="#">filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**filter-name** *string*

<b>Description</b>	Name of the filter
<b>Context</b>	<a href="#">system logging filter filter-name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**contains** *string*

<b>Description</b>	Text to find in the MSG property of messages to capture from the stream This is slower than prefix.
<b>Context</b>	<a href="#">system logging filter filter-name string contains string</a>
<b>Tree</b>	<a href="#">contains</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**facility** *facility-name keyword*

<b>Description</b>	List of facilities to source messages from
<b>Context</b>	<a href="#">system logging filter filter-name string facility facility-name keyword</a>
<b>Tree</b>	<a href="#">facility</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **facility-name** *keyword*

**Description** Name of a Linux syslog facility

**Context** [system logging filter filter-name](#) *string* [facility facility-name](#) *keyword*

**Options**

- auth
- authpriv
- cron
- daemon
- ftp
- kern
- lpr
- mail
- news
- syslog
- user
- uucp
- local0
- local1
- local2
- local3
- local4
- local5
- local6
- local7

**Configurable** True

**Platforms** Supported on all platforms

### **priority**

**Description** Narrows the capture to a given severity, a range or a specific set of severities

**Context** [system logging filter filter-name](#) *string* [facility facility-name](#) *keyword* [priority](#)

**Tree** [priority](#)

**Configurable** True

**Platforms** Supported on all platforms

**match-above** *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging filter filter-name</a> <i>string</i> <a href="#">facility facility-name</a> <i>keyword</i> <a href="#">priority match-above</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging filter filter-name</a> <i>string</i> <a href="#">facility facility-name</a> <i>keyword</i> <a href="#">priority match-exact</a> <i>keyword</i>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**prefix string**

<b>Description</b>	Text to be present at the beginning of the MSG property of a message This is a fast lookup.
<b>Context</b>	<a href="#">system logging filter filter-name string prefix string</a>
<b>Tree</b>	<a href="#">prefix</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**regex string**

<b>Description</b>	Extended regular expression to search in the MSG property of messages
<b>Context</b>	<a href="#">system logging filter filter-name string regex string</a>
<b>Tree</b>	<a href="#">regex</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**tag string**

<b>Description</b>	Text to be searched in the SYSLOGTAG property of messages Usually a program name or part of it.
<b>Context</b>	<a href="#">system logging filter filter-name string tag string</a>
<b>Tree</b>	<a href="#">tag</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance reference**

<b>Description</b>	Reference to a configured network-instance to run rsyslogd in This network-instance will be used as a source for requests to remote syslog servers.
<b>Context</b>	<a href="#">system logging network-instance reference</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**remote-server host** (*ipv4-address | ipv6-address | domain-name*)

<b>Description</b>	List of output remote syslog servers
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <i>ipv4-address   ipv6-address   domain-name</i> )
<b>Tree</b>	<a href="#">remote-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**host** (*ipv4-address | ipv6-address | domain-name*)

<b>Description</b>	Domain or IP address of a remote syslog server destination
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <i>ipv4-address   ipv6-address   domain-name</i> )
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**facility facility-name keyword**

<b>Description</b>	List of facilities to source messages from
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <i>ipv4-address   ipv6-address   domain-name</i> ) <a href="#">facility facility-name keyword</a>
<b>Tree</b>	<a href="#">facility</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**facility-name keyword**

<b>Description</b>	Name of a Linux syslog facility
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <i>ipv4-address   ipv6-address   domain-name</i> ) <a href="#">facility facility-name keyword</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auth</li> <li>• authpriv</li> <li>• cron</li> <li>• daemon</li> <li>• ftp</li> <li>• kern</li> </ul>



- lpr
- mail
- news
- syslog
- user
- uucp
- local0
- local1
- local2
- local3
- local4
- local5
- local6
- local7

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## priority

<b>Description</b>	Narrows the capture to a given severity, a range or a specific set of severities
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a>   <a href="#">domain-name</a> ) <a href="#">facility</a> <a href="#">facility-name</a> <a href="#">keyword</a> <a href="#">priority</a>
<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## match-above *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a>   <a href="#">domain-name</a> ) <a href="#">facility</a> <a href="#">facility-name</a> <a href="#">keyword</a> <a href="#">priority</a> <a href="#">match-above</a> <a href="#">keyword</a>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> </ul>

	<ul style="list-style-type: none"> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <i>ipv4-address</i>   <i>ipv6-address</i>   <i>domain-name</i> ) <a href="#">facility facility-name</a> <a href="#">keyword</a> <a href="#">priority</a> <a href="#">match-exact</a> <a href="#">keyword</a>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **filter** *reference*

<b>Description</b>	A set of all-matching criteria that messages must fulfill in order to be captured
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <i>ipv4-address</i>   <i>ipv6-address</i>   <i>domain-name</i> ) <a href="#">filter</a> <a href="#">reference</a>
<b>Tree</b>	<a href="#">filter</a>
<b>Reference</b>	<a href="#">system logging filter filter-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **remote-port** *number*

<b>Description</b>	Transport port for syslog to use for messages sent to a remote server
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<b>Context</b>	<a href="#">system logging remote-server host</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a>   <a href="#">domain-name</a> ) <a href="#">remote-port number</a>
<b>Tree</b>	<a href="#">remote-port</a>
<b>Default</b>	514
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **subsystem** [subsystem-name](#) *keyword*

<b>Description</b>	Entity or entities that may produce messages to be captured
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a>   <a href="#">domain-name</a> ) <a href="#">subsystem</a> <a href="#">subsystem-name</a> <i>keyword</i>
<b>Tree</b>	<a href="#">subsystem</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **subsystem-name** *keyword*

<b>Description</b>	Reference to an available subsystem to source messages from
<b>Context</b>	<a href="#">system logging remote-server host</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a>   <a href="#">domain-name</a> ) <a href="#">subsystem</a> <a href="#">subsystem-name</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">aaa</a></li> <li>• <a href="#">accounting</a></li> <li>• <a href="#">acl</a></li> <li>• <a href="#">app</a></li> <li>• <a href="#">arpnd</a></li> <li>• <a href="#">bfd</a></li> <li>• <a href="#">bgp</a></li> <li>• <a href="#">bridgetable</a></li> <li>• <a href="#">chassis</a></li> <li>• <a href="#">debug</a></li> <li>• <a href="#">dhcp</a></li> <li>• <a href="#">ethcfm</a></li> <li>• <a href="#">evpn</a></li> <li>• <a href="#">fib</a></li> <li>• <a href="#">gnmi</a></li> <li>• <a href="#">gribi</a></li> </ul>

- igmp
- isis
- json
- lag
- ldp
- license
- linux
- lldp
- log
- mgmt
- mirror
- mld
- mpls
- netinst
- ospf
- p4rt
- pcc
- pim
- platform
- policy
- qos
- sdk
- sflow
- staticroute
- sync
- twamp
- vxlan
- xdp

**Configurable**

True

**Platforms**

Supported on all platforms

## priority

**Description**

Narrows the capture to a given severity, a range or a specific set of severities

**Context**

[system logging remote-server host \(ipv4-address | ipv6-address | domain-name\) subsystem subsystem-name keyword priority](#)

<b>Tree</b>	<a href="#">priority</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **match-above** *keyword*

<b>Description</b>	At a given severity and above
<b>Context</b>	<a href="#">system logging remote-server host (ipv4-address   ipv6-address   domain-name) subsystem subsystem-name keyword priority match-above keyword</a>
<b>Tree</b>	<a href="#">match-above</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **match-exact** *keyword*

<b>Description</b>	Individually specified severities
<b>Context</b>	<a href="#">system logging remote-server host (ipv4-address   ipv6-address   domain-name) subsystem subsystem-name keyword priority match-exact keyword</a>
<b>Tree</b>	<a href="#">match-exact</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• emergency</li> <li>• alert</li> <li>• critical</li> <li>• error</li> <li>• warning</li> <li>• notice</li> <li>• informational</li> <li>• debug</li> </ul>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **transport** *keyword*

**Description** Transport protocol for syslog to use for messages sent to a remote server

**Context** [system logging remote-server host](#) (*ipv4-address* | *ipv6-address* | *domain-name*) **transport** *keyword*

**Tree** [transport](#)

**Default** udp

**Options**

- udp
- tcp

**Configurable** True

**Platforms** Supported on all platforms

### **subsystem-facility** *keyword*

**Description** Linux facility that internal application subsystems will use

**Context** [system logging subsystem-facility](#) *keyword*

**Tree** [subsystem-facility](#)

**Default** local6

**Options**

- auth
- authpriv
- cron
- daemon
- ftp
- kern
- lpr
- mail
- news
- syslog
- user
- uucp
- local0
- local1
- local2
- local3

- local4
- local5
- local6
- local7

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## **maintenance**

<b>Description</b>	Top-level container for Maintenance Mode configuration
<b>Context</b>	<a href="#">system maintenance</a>
<b>Tree</b>	<a href="#">maintenance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## **group [name](#) *string***

<b>Description</b>	List of user-configured maintenance groups
<b>Context</b>	<a href="#">system maintenance group name <i>string</i></a>
<b>Tree</b>	<a href="#">group</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## **name *string***

<b>Description</b>	Name of the maintenance group.
<b>Context</b>	<a href="#">system maintenance group name <i>string</i></a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## **maintenance-mode**

<b>Description</b>	Container with options for activating and deactivating maintenance mode for this group
<b>Context</b>	<a href="#">system maintenance group name <i>string</i> maintenance-mode</a>

<b>Tree</b>	<a href="#">maintenance-mode</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **admin-state** *keyword*

<b>Description</b>	<p>Enable or disable maintenance mode for this group</p> <p>The enable setting is blocked if there is another maintenance group with at least one BGP session in its scope that overlaps with this maintenance group and that other maintenance group is currently in maintenance mode.</p> <p>While a maintenance group is in maintenance mode it is not possible to modify the BGP configuration of its members.</p>
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">maintenance-mode admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **maintenance-profile** *reference*

<b>Description</b>	Leaf reference to <code>/system/maintenance/profile/name</code>
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">maintenance-profile</a> <i>reference</i>
<b>Tree</b>	<a href="#">maintenance-profile</a>
<b>Reference</b>	<a href="#">system maintenance profile name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **members**

<b>Description</b>	<p>Container for specifying the members of the maintenance group - i.e. the components that will eventually be taken out of service for repair or replacement.</p>
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">members</a>
<b>Tree</b>	<a href="#">members</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bgp

<b>Description</b>	Container for specifying the BGP members of the maintenance group
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">members</a> <a href="#">bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## network-instance [name](#) *reference*

<b>Description</b>	List of network instances with one or more peers to be placed in maintenance mode
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">members</a> <a href="#">bgp</a> <a href="#">network-instance name</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## name *reference*

<b>Description</b>	A unique name identifying the network instance
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">members</a> <a href="#">bgp</a> <a href="#">network-instance name</a> <i>reference</i>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## neighbor *reference*

<b>Description</b>	List of BGP neighbors that belong to the network instance and that should be part of the maintenance group It is not necessary to list neighbors that are members of peer-groups that are already listed.
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If this list is empty and so is the group list, then the system interprets the meaning as ALL static and dynamic sessions belonging to the specified network-instance.

<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">members bgp network-instance name</a> <i>reference</i> <a href="#">neighbor</a> <i>reference</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **peer-group** *reference*

<b>Description</b>	List of BGP peer groups that belong to the network instance and that should be part of the maintenance group  If this list is empty and so is the neighbor list, then the system interprets the meaning as ALL static and dynamic sessions belonging to the specified network-instance.
<b>Context</b>	<a href="#">system maintenance group name</a> <i>string</i> <a href="#">members bgp network-instance name</a> <i>reference</i> <a href="#">peer-group</a> <i>reference</i>
<b>Tree</b>	<a href="#">peer-group</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **profile name** *string*

<b>Description</b>	Enter the profile list instance
<b>Context</b>	<a href="#">system maintenance profile name</a> <i>string</i>
<b>Tree</b>	<a href="#">profile</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **name** *string*

<b>Description</b>	Name of the maintenance profile
<b>Context</b>	<a href="#">system maintenance profile name</a> <i>string</i>
<b>String Length</b>	1 to 255

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bgp

<b>Description</b>	Container for BGP policies used to achieve traffic draining
<b>Context</b>	<a href="#">system maintenance profile name</a> <i>string</i> <a href="#">bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## export-policy *reference*

<b>Description</b>	A reference to the pre-configured routing policy to apply as an additional/final export policy on BGP sessions in the maintenance group
<b>Context</b>	<a href="#">system maintenance profile name</a> <i>string</i> <a href="#">bgp export-policy reference</a>
<b>Tree</b>	<a href="#">export-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## import-policy *reference*

<b>Description</b>	A reference to the pre-configured routing policy to apply as an additional/final import policy on BGP sessions in the maintenance group
<b>Context</b>	<a href="#">system maintenance profile name</a> <i>string</i> <a href="#">bgp import-policy reference</a>
<b>Tree</b>	<a href="#">import-policy</a>
<b>Reference</b>	<a href="#">routing-policy policy name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## management

<b>Description</b>	Enclosing container for options relating to management server
<b>Context</b>	<a href="#">system management</a>
<b>Tree</b>	<a href="#">management</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## openconfig

<b>Description</b>	Top-level container for options relating to OpenConfig
<b>Context</b>	<a href="#">system management openconfig</a>
<b>Tree</b>	<a href="#">openconfig</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## admin-state *keyword*

<b>Description</b>	Enable or disable the OpenConfig management server This will disable OpenConfig throughout the system, and bring any gRPC servers that use it operationally down.
<b>Context</b>	<a href="#">system management openconfig admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## oper-state *keyword*

<b>Description</b>	Indicates the operational state of the OpenConfig management server
<b>Context</b>	<a href="#">system management openconfig oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> </ul>

- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## mirroring

**Description**

Top level container for configuration and operational state for mirroring

**Context**[system mirroring](#)**Tree**[mirroring](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mirroring-instance** *name string*

<b>Description</b>	Mirroring instances configured on the local system
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string</a>
<b>Tree</b>	<a href="#">mirroring-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	8

**name** *string*

<b>Description</b>	A unique name identifying the mirroring instance
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**admin-state** *keyword*

<b>Description</b>	This leaf contains the configured, desired state of the mirroring instance.
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**description** *string*

<b>Description</b>	A user-entered description of this mirroring instance.
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string description string</a>
<b>Tree</b>	<a href="#">description</a>
<b>String Length</b>	1 to 255

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mirror-destination

<b>Description</b>	Configure mirror destination
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination</a>
<b>Tree</b>	<a href="#">mirror-destination</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## local *string*

<b>Description</b>	subinterface of type local-mirror-dest used as local mirror destination
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination</a> <a href="#">local string</a>
<b>Tree</b>	<a href="#">local</a>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

## remote

<b>Description</b>	Enable the remote context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination</a> <a href="#">remote</a>
<b>Tree</b>	<a href="#">remote</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## encap *keyword*

<b>Description</b>	Enter the encap context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination</a> <a href="#">remote</a> <a href="#">encap keyword</a>

<b>Tree</b>	<a href="#">encap</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">l2ogre</a></li> <li>• <a href="#">l3ogre</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### network-instance *reference*

<b>Description</b>	network instance to initiate remote mirror tunnel
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination remote network-instance reference</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### tunnel-end-points

<b>Description</b>	Enter the tunnel-end-points context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination remote tunnel-end-points</a>
<b>Tree</b>	<a href="#">tunnel-end-points</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### admin-state *keyword*

<b>Description</b>	This leaf contains the configured, desired state of the remote mirror tunnel
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination remote tunnel-end-points admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	enable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>



<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**dst-ipv4 string**

<b>Description</b>	remote mirror tunnel destination endpoint IPv4 address
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string mirror-destination remote tunnel-end-points dst-ipv4 string</a>
<b>Tree</b>	<a href="#">dst-ipv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**dst-ipv6 string**

<b>Description</b>	remote mirror tunnel destination endpoint IPv6 address
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string mirror-destination remote tunnel-end-points dst-ipv6 string</a>
<b>Tree</b>	<a href="#">dst-ipv6</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-state keyword**

<b>Description</b>	This leaf contains the operational state of the remote mirror tunnel
<b>Context</b>	<a href="#">system mirroring mirroring-instance name string mirror-destination remote tunnel-end-points oper-state keyword</a>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> </ul>

- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the reinvoke-with-delay action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**src-ipv4 string****Description**

remote mirror tunnel source endpoint IPv4 address

**Context**[system mirroring mirroring-instance name string mirror-destination remote tunnel-end-points src-ipv4 string](#)**Tree**[src-ipv4](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**src-ipv6** *string*

<b>Description</b>	remote mirror tunnel source endpoint IPv6 address
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-destination remote tunnel-end-points src-ipv6</a> <i>string</i>
<b>Tree</b>	<a href="#">src-ipv6</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mirror-source**

<b>Description</b>	Configure mirror source(s)
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source</a>
<b>Tree</b>	<a href="#">mirror-source</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**acl**

<b>Description</b>	Enter the acl context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ipv4-filter** *name reference*

<b>Description</b>	Enter the ipv4-filter list instance
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source acl ipv4-filter name</a> <i>reference</i>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**name** *reference*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source acl ipv4-filter name</a> <i>reference</i>
<b>Reference</b>	<a href="#">acl ipv4-filter name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**entry** [sequence-id](#) *reference*

<b>Description</b>	Add a list entry for entry
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source acl ipv4-filter name</a> <i>reference</i> <a href="#">entry sequence-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**sequence-id** *reference*

<b>Description</b>	Enter the sequence-id context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source acl ipv4-filter name</a> <i>reference</i> <a href="#">entry sequence-id</a> <i>reference</i>
<b>Reference</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ipv6-filter** [name](#) *reference*

<b>Description</b>	Enter the ipv6-filter list instance
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source acl ipv6-filter name</a> <i>reference</i>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### name *reference*

**Description** Enter the name context

**Context** [system mirroring mirroring-instance name](#) *string* [mirror-source acl ipv6-filter name](#) *reference*

**Reference** [acl ipv6-filter name](#) *string*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### entry [sequence-id](#) *reference*

**Description** Add a list entry for entry

**Context** [system mirroring mirroring-instance name](#) *string* [mirror-source acl ipv6-filter name](#) *reference* [entry sequence-id](#) *reference*

**Tree** [entry](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### sequence-id *reference*

**Description** Enter the sequence-id context

**Context** [system mirroring mirroring-instance name](#) *string* [mirror-source acl ipv6-filter name](#) *reference* [entry sequence-id](#) *reference*

**Reference** [acl ipv6-filter name](#) *string* [entry sequence-id](#) *number*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### interface [name](#) *string*

**Description** List of interfaces used as mirror source

**Context** [system mirroring mirroring-instance name](#) *string* [mirror-source interface name](#) *string*

<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**name** *string*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source interface name</a> <i>string</i>
<b>String Length</b>	3 to 20
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**direction** *keyword*

<b>Description</b>	The direction of traffic to be mirrored
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source interface name</a> <i>string</i> <b>direction</b> <i>keyword</i>
<b>Tree</b>	<a href="#">direction</a>
<b>Default</b>	egress-only
<b>Options</b>	<ul style="list-style-type: none"> <li>• ingress-only</li> <li>• egress-only</li> <li>• ingress-egress</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**subinterface** [name](#) *string*

<b>Description</b>	List of subinterfaces used as mirror source
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source subinterface name</a> <i>string</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**name** *string*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source subinterface name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**direction** *keyword*

<b>Description</b>	The direction of traffic to be mirrored
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <a href="#">mirror-source subinterface name</a> <i>string</i> <b>direction</b> <i>keyword</i>
<b>Tree</b>	<a href="#">direction</a>
<b>Default</b>	egress-only
<b>Options</b>	<ul style="list-style-type: none"> <li>• ingress-only</li> <li>• egress-only</li> <li>• ingress-egress</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7250 IXR-6e and IXR-10e

**oper-down-reason** *keyword*

<b>Description</b>	The reason for the mirroring instance being operational down
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string</i> <b>oper-down-reason</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• mirror-inst-admin-down</li> <li>• no-mirror-source</li> <li>• local-mirror-subif-down</li> <li>• remote-mirror-dst-unreachable</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-state** *keyword*

<b>Description</b>	This leaf contains the operational state of the mirroring instance.
<b>Context</b>	<a href="#">system mirroring mirroring-instance name</a> <i>string oper-state keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting This state can be set by event handler when the <code>reinvoke-with-delay</code> action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mpls

**Description** Container for system wide MPLS label management

**Context** [system mpls](#)

**Tree** [mpls](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## label-ranges

**Description** Container for managing MPLS label blocks

**Context** [system mpls label-ranges](#)

**Tree** [label-ranges](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## dynamic [name string](#)

**Description** List of dynamic label blocks

When a client application binds its operation to a dynamic label block that client application is expected to just ask for the next available label within the dynamic label block.

At this time a dynamic label block cannot be shared by multiple different clients/protocols. Each protocol needing dynamic labels must have its own label block.

**Context** [system mpls label-ranges dynamic name string](#)

**Tree** [dynamic](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## name *string*

**Description** The name of the dynamic label block

**Context** [system mpls label-ranges dynamic name string](#)

<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **allocated-labels** *number*

<b>Description</b>	The number of labels that are currently used in this block
<b>Context</b>	<a href="#">system mpls label-ranges dynamic name string allocated-labels number</a>
<b>Tree</b>	<a href="#">allocated-labels</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **end-label** *number*

<b>Description</b>	The ending label value of the label block. When the status is not-ready or updating, the state value may be different from the configured value
<b>Context</b>	<a href="#">system mpls label-ranges dynamic name string end-label number</a>
<b>Tree</b>	<a href="#">end-label</a>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **free-labels** *number*

<b>Description</b>	The number of labels that are currently available and free in this block. When the status is not-ready or updating, the state value may be different from the configured value
<b>Context</b>	<a href="#">system mpls label-ranges dynamic name string free-labels number</a>
<b>Tree</b>	<a href="#">free-labels</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **start-label** *number*

<b>Description</b>	The starting label value of the label block.
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When the status is not-ready or updating, the state value may be different from the configured value

<b>Context</b>	<a href="#">system mpls label-ranges dynamic name</a> <i>string</i> <a href="#">start-label</a> <i>number</i>
<b>Tree</b>	<a href="#">start-label</a>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **status** *keyword*

<b>Description</b>	The status of the MPLS label block
<b>Context</b>	<a href="#">system mpls label-ranges dynamic name</a> <i>string</i> <a href="#">status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <b>ready</b> The label block is ready to use.</li> <li>• <b>not-ready</b> The label block is not ready to use.</li> <li>• <b>delete-pending</b> The label block is in the process of being deleted.</li> <li>• <b>updating</b> The label block is available to use but the new limits do not apply yet.</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **user** [index](#) *number*

<b>Description</b>	The list of protocols that are using this label block. If the block is not shared there will only be 1 user
<b>Context</b>	<a href="#">system mpls label-ranges dynamic name</a> <i>string</i> <a href="#">user</a> <a href="#">index</a> <i>number</i>
<b>Tree</b>	<a href="#">user</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **index** *number*

<b>Description</b>	Index number used to enumerate the clients
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<b>Context</b>	<a href="#">system mpls label-ranges dynamic name string user index number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **protocol** *identityref*

<b>Description</b>	The protocol associated with the client
<b>Context</b>	<a href="#">system mpls label-ranges dynamic name string user index number protocol identityref</a>
<b>Tree</b>	<a href="#">protocol</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">bgp</a> The BGP/MP-BGP protocol carrying labels.</li> <li>• <a href="#">ldp</a> The label distribution protocol (LDP).</li> <li>• <a href="#">sr-isis</a> The IS-IS protocol with segment routing extensions</li> <li>• <a href="#">sr-ospf</a> The OSPFv2 protocol with segment routing extensions</li> <li>• <a href="#">sr-ospfv3</a> The OSPFv3 protocol with segment routing extensions</li> <li>• <a href="#">sr-policy</a> A pseudo protocol representing SR policies</li> <li>• <a href="#">static-mpls</a> A pseudo protocol representing static MPLS routes</li> <li>• <a href="#">evpn</a> The BGP/EVPN protocol carrying labels.</li> <li>• <a href="#">network-instance</a> The module allocating labels for bgp based vpn/evpn services</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **static name** *string*

<b>Description</b>	<p>List of static label blocks</p> <p>When a client application binds its operation to a static label block that client application is expected to specify the exact label value it wants to use every time it requests a label within the static label block.</p>
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<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i>
<b>Tree</b>	<a href="#">static</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**name** *string*

<b>Description</b>	The name of the static label block
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**allocated-labels** *number*

<b>Description</b>	The number of labels that are currently used in this block
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">allocated-labels</a> <i>number</i>
<b>Tree</b>	<a href="#">allocated-labels</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**end-label** *number*

<b>Description</b>	The ending label value of the label block. When the status is not-ready or updating, the state value may be different from the configured value
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">end-label</a> <i>number</i>
<b>Tree</b>	<a href="#">end-label</a>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**free-labels** *number*

<b>Description</b>	The number of labels that are currently available and free in this block.
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When the status is not-ready or updating, the state value may be different from the configured value

<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">free-labels</a> <i>number</i>
<b>Tree</b>	<a href="#">free-labels</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **shared** *boolean*

<b>Description</b>	When set to true, the label block can be shared by multiple protocols. When set to false, the label block is dedicated to one protocol.
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">shared</a> <i>boolean</i>
<b>Tree</b>	<a href="#">shared</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **start-label** *number*

<b>Description</b>	The starting label value of the label block. When the status is not-ready or updating, the state value may be different from the configured value
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">start-label</a> <i>number</i>
<b>Tree</b>	<a href="#">start-label</a>
<b>Range</b>	16 to 1048575
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **status** *keyword*

<b>Description</b>	The status of the MPLS label block
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">status</a> <i>keyword</i>
<b>Tree</b>	<a href="#">status</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>ready The label block is ready to use.</li> <li>not-ready</li> </ul>

- The label block is not ready to use.
- delete-pending
  - The label block is in the process of being deleted.
- updating
  - The label block is available to use but the new limits do not apply yet.

<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **user *index number***

<b>Description</b>	The list of protocols that are using this label block. If the block is not shared there will only be 1 user
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">user index number</a>
<b>Tree</b>	<a href="#">user</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **index *number***

<b>Description</b>	Index number used to enumerate the clients
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">user index number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **protocol *identityref***

<b>Description</b>	The protocol associated with the client
<b>Context</b>	<a href="#">system mpls label-ranges static name</a> <i>string</i> <a href="#">user index number</a> <a href="#">protocol identityref</a>
<b>Tree</b>	<a href="#">protocol</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• bgp           <ul style="list-style-type: none"> <li>The BGP/MP-BGP protocol carrying labels.</li> </ul> </li> <li>• ldp           <ul style="list-style-type: none"> <li>The label distribution protocol (LDP).</li> </ul> </li> <li>• sr-isis           <ul style="list-style-type: none"> <li>The IS-IS protocol with segment routing extensions</li> </ul> </li> </ul>

- `sr-ospf`  
The OSPFv2 protocol with segment routing extensions
- `sr-ospfv3`  
The OSPFv3 protocol with segment routing extensions
- `sr-policy`  
A pseudo protocol representing SR policies
- `static-mpls`  
A pseudo protocol representing static MPLS routes
- `evpn`  
The BGP/EVPN protocol carrying labels.
- `network-instance`  
The module allocating labels for bgp based vpn/evpn services

**Configurable**

False

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**services****Description**

Container for system wide Services MPLS label management

**Context**[system mpls services](#)**Tree**[services](#)**Configurable**

True

**Platforms**

7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**mtu****Description**

Top-level container for configuration and state data related to the system MTU

**Context**[system mtu](#)**Tree**[mtu](#)**Configurable**

True

**Platforms**

Supported on all platforms

**default-ip-mtu *number*****Description**

System default IP MTU in bytes including the IP header but excluding Ethernet overhead



The 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D3, 7220 IXR-H2, and 7220 IXR-H3 systems support a maximum IP MTU of 9398 bytes.

<b>Context</b>	<a href="#">system mtu default-ip-mtu number</a>
<b>Tree</b>	<a href="#">default-ip-mtu</a>
<b>Range</b>	1280 to 9486
<b>Default</b>	1500
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **default-l2-mtu** *number*

<b>Description</b>	System default Layer-2 MTU in bytes including ethernet overhead and VLAN tags but excluding 4-bytes FCS  The 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D3, 7220 IXR-H2, and 7220 IXR-H3 systems support a maximum L2 MTU of 9412 bytes.
<b>Context</b>	<a href="#">system mtu default-l2-mtu number</a>
<b>Tree</b>	<a href="#">default-l2-mtu</a>
<b>Range</b>	1500 to 9500
<b>Default</b>	9232
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **default-mpls-mtu** *number*

<b>Description</b>	System default MPLS MTU in bytes including the size of the transmitted label stack.
<b>Context</b>	<a href="#">system mtu default-mpls-mtu number</a>
<b>Tree</b>	<a href="#">default-mpls-mtu</a>
<b>Range</b>	1284 to 9496
<b>Default</b>	1508
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**default-port-mtu** *number*

<b>Description</b>	System default port MTU in bytes including ethernet overhead but excluding 4-bytes FCS  The 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D3, 7220 IXR-H2, and 7220 IXR-H3 systems support a maximum port MTU of 9412 bytes.
<b>Context</b>	<a href="#">system mtu default-port-mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">default-port-mtu</a>
<b>Range</b>	1500 to 9500
<b>Default</b>	9232
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**min-path-mtu** *number*

<b>Description</b>	Sets the minimum path MTU to use when receiving an ICMP fragmentation needed message  This is controlled via the kernel min_pmtu option. In the event an ICMP fragmentation needed message is received by the kernel, the system will drop the session to this MTU to allow packets to traverse the entire path.
<b>Context</b>	<a href="#">system mtu min-path-mtu</a> <i>number</i>
<b>Tree</b>	<a href="#">min-path-mtu</a>
<b>Range</b>	552 to 9232
<b>Default</b>	552
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**multicast**

<b>Description</b>	system multicast information
<b>Context</b>	<a href="#">system multicast</a>
<b>Tree</b>	<a href="#">multicast</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**multicast-ids**

<b>Description</b>	system multicast id information
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<b>Context</b>	<a href="#">system multicast multicast-ids</a>
<b>Tree</b>	<a href="#">multicast-ids</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system multicast multicast-ids statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### current-usage *number*

<b>Description</b>	The total number of multicast ids that are in use on the system.
<b>Context</b>	<a href="#">system multicast multicast-ids statistics current-usage number</a>
<b>Tree</b>	<a href="#">current-usage</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### maximum-ids *number*

<b>Description</b>	Maximum number of multicast ids available in the system.
<b>Context</b>	<a href="#">system multicast multicast-ids statistics maximum-ids number</a>
<b>Tree</b>	<a href="#">maximum-ids</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### multicast-id-user-type *user keyword*

<b>Description</b>	the type of the user of multicast id in the system.
<b>Context</b>	<a href="#">system multicast multicast-ids statistics multicast-id-user-type user keyword</a>
<b>Tree</b>	<a href="#">multicast-id-user-type</a>
<b>Configurable</b>	False

**Platforms** Supported on all platforms

### **user** *keyword*

**Description** Enter the user context

**Context** [system](#) [multicast](#) [multicast-ids](#) [statistics](#) [multicast-id-user-type](#) [user](#) *keyword*

**Options**

- mac-vrf
- vxlan-interface
- l2-proxy-arp-nd
- mfib
- mac-vrf-bgp-evpn

**Configurable** False

**Platforms** Supported on all platforms

### **current-usage** *number*

**Description** The total number of multicast ids that are in use on the system.

**Context** [system](#) [multicast](#) [multicast-ids](#) [statistics](#) [multicast-id-user-type](#) [user](#) *keyword*  
[current-usage](#) *number*

**Tree** [current-usage](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

### **total-pending** *number*

**Description** The total number of multicast ids pending allocation on the system.

**Context** [system](#) [multicast](#) [multicast-ids](#) [statistics](#) [multicast-id-user-type](#) [user](#) *keyword*  
[total-pending](#) *number*

**Tree** [total-pending](#)

**Default** 0

**Configurable** False

**Platforms** Supported on all platforms

**total-pending** *number*

<b>Description</b>	The total number of multicast ids pending allocation on the system.
<b>Context</b>	<a href="#">system multicast multicast-ids statistics total-pending</a> <i>number</i>
<b>Tree</b>	<a href="#">total-pending</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**multicast-forwarding-information-base**

<b>Description</b>	System Multicast Forwarding Information Base table
<b>Context</b>	<a href="#">system multicast-forwarding-information-base</a>
<b>Tree</b>	<a href="#">multicast-forwarding-information-base</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**multicast-route** [network-instance reference source \(ipv4-address | ipv6-address\) group \(ipv4-address | ipv6-address\)](#)

<b>Description</b>	List of all the MFIB entries in the system
<b>Context</b>	<a href="#">system multicast-forwarding-information-base multicast-route network-instance reference source (ipv4-address   ipv6-address) group (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">multicast-route</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**network-instance** *reference*

<b>Description</b>	Indicates that the MFIB entry is associated to this network instance
<b>Context</b>	<a href="#">system multicast-forwarding-information-base multicast-route network-instance reference source (ipv4-address   ipv6-address) group (ipv4-address   ipv6-address)</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**source** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Source IP address of the MFIB entry
<b>Context</b>	<a href="#">system multicast-forwarding-information-base multicast-route network-instance reference source</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">group</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**group** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Multicast group address of the MFIB entry
<b>Context</b>	<a href="#">system multicast-forwarding-information-base multicast-route network-instance reference source</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">group</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**last-update** *string*

<b>Description</b>	Last update of this MFIB entry
<b>Context</b>	<a href="#">system multicast-forwarding-information-base multicast-route network-instance reference source</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">group</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**line-card-replication-index** *number*

<b>Description</b>	Line card Replication Index (LRID) allocated by mfib_mgr Upon programming an MFIB entry, mfib_mgr requests a Multicast Identifier (MCID) to mcid_mgr and based on the response with an allocated MCID, mfib_mgr allocates a LRID for the entry. A value 0 indicates that no MCID was received for the entry, and therefore the MFIB entry cannot forward multicast traffic.
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<b>Context</b>	<a href="#">system multicast-forwarding-information-base multicast-route network-instance reference source (ipv4-address   ipv6-address) group (ipv4-address   ipv6-address) line-card-replication-index number</a>
<b>Tree</b>	<a href="#">line-card-replication-index</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**name**

<b>Description</b>	Contains configuration and state related to system naming
<b>Context</b>	<a href="#">system name</a>
<b>Tree</b>	<a href="#">name</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**domain-name *string***

<b>Description</b>	The system domain name
<b>Context</b>	<a href="#">system name domain-name <i>string</i></a>
<b>Tree</b>	<a href="#">domain-name</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**host-name *string***

<b>Description</b>	The system host name
<b>Context</b>	<a href="#">system name host-name <i>string</i></a>
<b>Tree</b>	<a href="#">host-name</a>
<b>String Length</b>	1 to 63
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## network-instance

<b>Description</b>	Enable the network-instance context
<b>Context</b>	<a href="#">system network-instance</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## protocols

<b>Description</b>	The routing protocols that are enabled for this network-instance.
<b>Context</b>	<a href="#">system network-instance protocols</a>
<b>Tree</b>	<a href="#">protocols</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bgp-vpn

<b>Description</b>	Enable the bgp-vpn context
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn</a>
<b>Tree</b>	<a href="#">bgp-vpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bgp-instance *id number*

<b>Description</b>	List of bgp-vpn instances configured in the system network-instance. Only one instance allowed in the current release.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number</a>
<b>Tree</b>	<a href="#">bgp-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

## *id number*

<b>Description</b>	The index of the bgp-vpn instance
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<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number</a>
<b>Range</b>	1 to 2
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **oper-down-reason** *keyword*

<b>Description</b>	Reason for the system bgp-instance being down
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number oper-down-reason keyword</a>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• no-loopback-address</li> <li>• no-esi</li> <li>• none</li> <li>• network-instance-oper-down</li> <li>• bad-rd-format</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-distinguisher**

<b>Description</b>	Route Distinguisher (RD) of the bgp-vpn instance.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-distinguisher</a>
<b>Tree</b>	<a href="#">route-distinguisher</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **rd** (*route-distinguisher-type-0 | route-distinguisher-type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b*)

<b>Description</b>	Route Distinguisher (RD) of the system bgp-vpn instance. The RD is auto-derived as <ip-address>:0 where 'ip-address' is the ipv4 address associated to the subinterface lo0.1.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-distinguisher rd (route-distinguisher-type-0   route-distinguisher-type-1   route-distinguisher-type-2   route-distinguisher-type-2b)</a>

<b>Tree</b>	<a href="#">rd</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-distinguisher-origin** *keyword*

<b>Description</b>	Origin of the operational Route Distinguisher (RD) of the bgp-vpn instance. 'Auto-derived-from-system-ip:0' refers to the RD for the EVPN Ethernet Segment routes that is automatically allocated with the format <ip-address>:0 where 'ip-address' is the ipv4 address associated to the subinterface lo0.1.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-distinguisher route-distinguisher-origin keyword</a>
<b>Tree</b>	<a href="#">route-distinguisher-origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto-derived-from-system-ip:0</li> <li>• none</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **route-target**

<b>Description</b>	Route Target (RT) of the system bgp-vpn instance.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-target</a>
<b>Tree</b>	<a href="#">route-target</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **export-route-target-origin** *keyword*

<b>Description</b>	Origin of the operational export Route Target (RT) of the bgp-vpn instance. 'Auto-derived-from-esi-bytes-1-6' refers to the ES-import RT for the EVPN Ethernet Segment routes that is derived from bytes 1 to 6 of the Ethernet Segment Identifier of the route.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-target export-route-target-origin keyword</a>
<b>Tree</b>	<a href="#">export-route-target-origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto-derived-from-esi-bytes-1-6</li> </ul>

	<ul style="list-style-type: none"> <li>• none</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **export-rt** (*string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string*)

<b>Description</b>	<p>Export Route Target (RT) in the system bgp-vpn instance.</p> <p>When used for evpn ES routes as ES-import Route Target, the RT is auto-derived from the high-order 6-octet portion of the 9-octet ESI value. Note that the ESI value excludes the left-most byte, which is reserved for the ESI type. The RT is encoded into the ES-import extended community advertised along with the ES route.</p>
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-target export-rt</a> ( <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i>   <i>string</i> )
<b>Tree</b>	<a href="#">export-rt</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **import-route-target-origin** *keyword*

<b>Description</b>	<p>Origin of the operational import Route Target (RT) of the bgp-vpn instance.</p> <p>'Auto-derived-from-esi-bytes-1-6' refers to the ES-import RT for the EVPN Ethernet Segment routes that is derived from bytes 1 to 6 of the Ethernet Segment Identifier of the route.</p>
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-target import-route-target-origin</a> <i>keyword</i>
<b>Tree</b>	<a href="#">import-route-target-origin</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• auto-derived-from-esi-bytes-1-6</li> <li>• none</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **import-rt** (*string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string* | *string*)

<b>Description</b>	<p>Import Route Target (RT) in the system bgp-vpn instance.</p> <p>When used for evpn ES routes as ES-import Route Target, the RT is auto-derived from the high-order 6-octet portion of the 9-octet ESI value. Note that the ESI value excludes the left-most byte, which is reserved for the ESI type.</p>
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	The RT is encoded into the ES-import extended community received along with the ES route.
<b>Context</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number route-target import-rt</a> ( <i>string   string   string   string   string   string   string   string   string   string</i> )
<b>Tree</b>	<a href="#">import-rt</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

## evpn

<b>Description</b>	Enable the evpn context
<b>Context</b>	<a href="#">system network-instance protocols evpn</a>
<b>Tree</b>	<a href="#">evpn</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## ethernet-segments

<b>Description</b>	Enable the ethernet-segments context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments</a>
<b>Tree</b>	<a href="#">ethernet-segments</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## bgp-instance [id reference](#)

<b>Description</b>	bgp global instances configured in net-instance
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference</a>
<b>Tree</b>	<a href="#">bgp-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1

**id** *reference*

<b>Description</b>	Enter the id context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference</a>
<b>Reference</b>	<a href="#">system network-instance protocols bgp-vpn bgp-instance id number</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ethernet-segment** *name string*

<b>Description</b>	Ethernet Segment configuration and state.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string</a>
<b>Tree</b>	<a href="#">ethernet-segment</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1024

**name** *string*

<b>Description</b>	A unique name identifying the ethernet segment.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string</a>
<b>String Length</b>	1 to 32
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**admin-state** *keyword*

<b>Description</b>	Admin state of the ethernet segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable

<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## association

<b>Description</b>	Enter the association context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association</a>
<b>Tree</b>	<a href="#">association</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## network-instance [name string](#)

<b>Description</b>	network instance associated to this ethernet-segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## [name string](#)

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**bgp-instance** *instance number*

<b>Description</b>	bgp-instance associated to this ethernet-segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number</a>
<b>Tree</b>	<a href="#">bgp-instance</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**instance** *number*

<b>Description</b>	Enter the instance context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**computed-designated-forwarder-candidates**

<b>Description</b>	Enter the computed-designated-forwarder-candidates context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number computed-designated-forwarder-candidates</a>
<b>Tree</b>	<a href="#">computed-designated-forwarder-candidates</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**designated-forwarder-candidate** *address (ipv4-address | ipv6-address)*

<b>Description</b>	designated forwarder candidates for this evi
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number computed-designated-forwarder-candidates designated-forwarder-candidate address (ipv4-address   ipv6-address)</a>

<b>Tree</b>	<a href="#">designated-forwarder-candidate</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number computed-designated-forwarder-candidates designated-forwarder-candidate address (ipv4-address   ipv6-address)</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **add-time** *string*

<b>Description</b>	The date and time when the designated-forwarder-candidate was added to the designated forwarder candidate list for this evi
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number computed-designated-forwarder-candidates designated-forwarder-candidate address (ipv4-address   ipv6-address) add-time string</a>
<b>Tree</b>	<a href="#">add-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **designated-forwarder** *boolean*

<b>Description</b>	Indicates if this designated-forwarder-candidate is the designated-forwarder.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number computed-designated-forwarder-candidates designated-forwarder-candidate address (ipv4-address   ipv6-address) designated-forwarder boolean</a>
<b>Tree</b>	<a href="#">designated-forwarder</a>



<b>Default</b>	false
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### designated-forwarder-activation-start-time *string*

<b>Description</b>	Indicates the time at which the designated-forwarder activation timer started.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number designated-forwarder-activation-start-time string</a>
<b>Tree</b>	<a href="#">designated-forwarder-activation-start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### designated-forwarder-activation-time *number*

<b>Description</b>	Indicates the number of seconds for the activation timer to run, for this node to become the designated forwarder for this bgp instance.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number designated-forwarder-activation-time number</a>
<b>Tree</b>	<a href="#">designated-forwarder-activation-time</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### designated-forwarder-role-last-change *string*

<b>Description</b>	Indicates the time at which the designated-forwarder role was changed.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string association network-instance name string bgp-instance instance number designated-forwarder-role-last-change string</a>
<b>Tree</b>	<a href="#">designated-forwarder-role-last-change</a>

<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### autodiscovery-per-ethernet-segment-routes

<b>Description</b>	Enter the autodiscovery-per-ethernet-segment-routes context
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <i>reference</i> <a href="#">ethernet-segment</a> <a href="#">name</a> <i>string</i> <a href="#">autodiscovery-per-ethernet-segment-routes</a>
<b>Tree</b>	<a href="#">autodiscovery-per-ethernet-segment-routes</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### attr-id *reference*

<b>Description</b>	Leaf reference to networkinstance/protocols/bgp/rib/attr-sets/attr-set/index.
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <i>reference</i> <a href="#">ethernet-segment</a> <a href="#">name</a> <i>string</i> <a href="#">autodiscovery-per-ethernet-segment-routes</a> <a href="#">attr-id</a> <i>reference</i>
<b>Tree</b>	<a href="#">attr-id</a>
<b>Reference</b>	<a href="#">network-instance</a> <a href="#">name</a> <i>string</i> <a href="#">bgp-rib</a> <a href="#">attr-sets</a> <a href="#">attr-set</a> <a href="#">index</a> <i>number</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### esi *string*

<b>Description</b>	The Ethernet Segment Identifier encoded in the NLRI
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <i>reference</i> <a href="#">ethernet-segment</a> <a href="#">name</a> <i>string</i> <a href="#">autodiscovery-per-ethernet-segment-routes</a> <a href="#">esi</a> <i>string</i>
<b>Tree</b>	<a href="#">esi</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**ethernet-tag-id** *number*

<b>Description</b>	The 32-bit Ethernet Tag ID encoded in the NLRI. The Ethernet Tag ID identifies a broadcast domain.
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <a href="#">reference</a> <a href="#">ethernet-segment</a> <a href="#">name</a> <a href="#">string</a> <a href="#">autodiscovery-per-ethernet-segment-routes</a> <a href="#">ethernet-tag-id</a> <i>number</i>
<b>Tree</b>	<a href="#">ethernet-tag-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**neighbor** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <a href="#">reference</a> <a href="#">ethernet-segment</a> <a href="#">name</a> <a href="#">string</a> <a href="#">autodiscovery-per-ethernet-segment-routes</a> <a href="#">neighbor</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**route-distinguisher** (*route-distinguisher-type-0* | *route-distinguisher-type-1* | *route-distinguisher-type-2* | *route-distinguisher-type-2b*)

<b>Description</b>	The route distinguisher encoded in the NLRI.
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <a href="#">reference</a> <a href="#">ethernet-segment</a> <a href="#">name</a> <a href="#">string</a> <a href="#">autodiscovery-per-ethernet-segment-routes</a> <a href="#">route-distinguisher</a> ( <i>route-distinguisher-type-0</i>   <i>route-distinguisher-type-1</i>   <i>route-distinguisher-type-2</i>   <i>route-distinguisher-type-2b</i> )
<b>Tree</b>	<a href="#">route-distinguisher</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vni** *number*

<b>Description</b>	The VXLAN Network Identifier
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<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string autodiscovery-per-ethernet-segment-routes vni number</a>
<b>Tree</b>	<a href="#">vni</a>
<b>Range</b>	0 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## df-election

<b>Description</b>	Enter the df-election context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election</a>
<b>Tree</b>	<a href="#">df-election</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## algorithm

<b>Description</b>	Enter the algorithm context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm</a>
<b>Tree</b>	<a href="#">algorithm</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## manual-alg

<b>Description</b>	Enable the manual-alg context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm manual-alg</a>
<b>Tree</b>	<a href="#">manual-alg</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**primary-evi-range** *start-evi number*

<b>Description</b>	evi range for this ethernet-segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm manual-alg primary-evi-range start-evi number</a>
<b>Tree</b>	<a href="#">primary-evi-range</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**start-evi** *number*

<b>Description</b>	start of the evi-range for this ethernet-segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm manual-alg primary-evi-range start-evi number</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**end-evi** *number*

<b>Description</b>	end of the evi-range for this ethernet-segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm manual-alg primary-evi-range start-evi number end-evi number</a>
<b>Tree</b>	<a href="#">end-evi</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-type** *keyword*

<b>Description</b>	Operational Designated Forwarder algorithm type for this ethernet-segment.
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<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm oper-type keyword</a>
<b>Tree</b>	<a href="#">oper-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• default</li> <li>• preference</li> <li>• manual</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## preference-alg

<b>Description</b>	Enable the preference-alg context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg</a>
<b>Tree</b>	<a href="#">preference-alg</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## capabilities

<b>Description</b>	Enter the capabilities context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg capabilities</a>
<b>Tree</b>	<a href="#">capabilities</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## ac-df *keyword*

<b>Description</b>	Attachment Circuit influenced DF Election.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg capabilities ac-df keyword</a>

<b>Tree</b>	<a href="#">ac-df</a>
<b>Default</b>	include
<b>Options</b>	<ul style="list-style-type: none"> <li>• include</li> <li>• exclude</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### non-revertive *boolean*

<b>Description</b>	Non Revertive mode. If set to true, the 'Don't Preempt Me' capability is advertised in the ES route.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg capabilities non-revertive boolean</a>
<b>Tree</b>	<a href="#">non-revertive</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### oper-do-not-preempt *boolean*

<b>Description</b>	Operational do-not-preempt value
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg oper-do-not-preempt boolean</a>
<b>Tree</b>	<a href="#">oper-do-not-preempt</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### oper-preference-value *number*

<b>Description</b>	Operational Preference value
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg oper-preference-value number</a>

<b>Tree</b>	<a href="#">oper-preference-value</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### preference-value *number*

<b>Description</b>	Preference that is used to elect the designated forwarder
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm preference-alg preference-value number</a>
<b>Tree</b>	<a href="#">preference-value</a>
<b>Range</b>	0 to 65535
<b>Default</b>	32767
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### type *keyword*

<b>Description</b>	Designated Forwarder algorithm type for this ethernet-segment.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election algorithm type keyword</a>
<b>Tree</b>	<a href="#">type</a>
<b>Default</b>	default
<b>Options</b>	<ul style="list-style-type: none"> <li>• default</li> <li>• preference</li> <li>• manual</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### interface-standby-signaling-on-non-df

<b>Description</b>	Enable the interface-standby-signaling-on-non-df context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election interface-standby-signaling-on-non-df</a>



<b>Tree</b>	<a href="#">interface-standby-signaling-on-non-df</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## timers

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election timers</a>
<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## activation-timer *number*

<b>Description</b>	Remaining activation timer per Ethernet segment
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string df-election timers activation-timer number</a>
<b>Tree</b>	<a href="#">activation-timer</a>
<b>Range</b>	0 to 100
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## esi *string*

<b>Description</b>	The 10-byte Ethernet Segment Identifier of the ethernet segment. ESI-0 or MAX-ESI values are not allowed. ESI values with bytes 1-6 all zeros are not allowed since they would produce a null ESI-import route-target.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string esi string</a>
<b>Tree</b>	<a href="#">esi</a>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## ethernet-segment-routes

**Description** Enter the ethernet-segment-routes context

**Context** [system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string ethernet-segment-routes](#)

**Tree** [ethernet-segment-routes](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## attr-id reference

**Description** Leaf reference to networkinstance/protocols/bgp/rib/attr-sets/attr-set/index.

**Context** [system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string ethernet-segment-routes attr-id reference](#)

**Tree** [attr-id](#)

**Reference** [network-instance name string bgp-rib attr-sets attr-set index number](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## esi string

**Description** The Ethernet Segment Identifier

**Context** [system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string ethernet-segment-routes esi string](#)

**Tree** [esi](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## neighbor (ipv4-address | ipv6-address)

**Description** If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.

<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string ethernet-segment-routes neighbor (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **originating-router** ([ipv4-address](#) | [ipv6-address](#))

<b>Description</b>	The IPv4 or IPv6 address of the originating router
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string ethernet-segment-routes originating-router (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">originating-router</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **route-distinguisher** ([route-distinguisher-type-0](#) | [route-distinguisher-type-1](#) | [route-distinguisher-type-2](#) | [route-distinguisher-type-2b](#))

<b>Description</b>	The route distinguisher encoded in the NLRI.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string ethernet-segment-routes route-distinguisher (route-distinguisher-type-0   route-distinguisher-type-1   route-distinguisher-type-2   route-distinguisher-type-2b)</a>
<b>Tree</b>	<a href="#">route-distinguisher</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **interface** [ethernet-interface reference](#)

<b>Description</b>	Add a list entry for interface
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string interface ethernet-interface reference</a>
<b>Tree</b>	<a href="#">interface</a>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1

### ethernet-interface *reference*

<b>Description</b>	Interface associated with the ethernet segment.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string interface ethernet-interface reference</a>
<b>Reference</b>	<a href="#">interface name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### multi-homing-mode *keyword*

<b>Description</b>	Multi-homing mode of the ethernet segment.  The state of this leaf can be different than the configured value in cases where the configured value is 'all-active' and the multi-homing mode advertised by the ES peers in the AD per-ES routes is 'single-active'. In this case, the state of this leaf will show 'single-active'.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string multi-homing-mode keyword</a>
<b>Tree</b>	<a href="#">multi-homing-mode</a>
<b>Default</b>	all-active
<b>Options</b>	<ul style="list-style-type: none"> <li>• all-active</li> <li>• single-active</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### next-hop [l3-next-hop \(ipv4-address | ipv6-address\)](#)

<b>Description</b>	Enter the next-hop list instance
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string next-hop l3-next-hop (ipv4-address   ipv6-address)</a>

<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1

### I3-next-hop (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Layer-3 next-hop associated with the ethernet segment.
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <a href="#">reference</a> <a href="#">ethernet-segment</a> <a href="#">name</a> <i>string</i> <a href="#">next-hop</a> <a href="#">I3-next-hop</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### evi *start number*

<b>Description</b>	evi range for this ethernet-segment association
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <a href="#">reference</a> <a href="#">ethernet-segment</a> <a href="#">name</a> <i>string</i> <a href="#">next-hop</a> <a href="#">I3-next-hop</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">evi</a> <a href="#">start</a> <a href="#">number</a>
<b>Tree</b>	<a href="#">evi</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	1

### start *number*

<b>Description</b>	start of the evi-range for this ethernet-segment
<b>Context</b>	<a href="#">system</a> <a href="#">network-instance</a> <a href="#">protocols</a> <a href="#">evpn</a> <a href="#">ethernet-segments</a> <a href="#">bgp-instance</a> <a href="#">id</a> <a href="#">reference</a> <a href="#">ethernet-segment</a> <a href="#">name</a> <i>string</i> <a href="#">next-hop</a> <a href="#">I3-next-hop</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">evi</a> <a href="#">start</a> <a href="#">number</a>
<b>Range</b>	1 to 65535
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-down-reason** *keyword*

<b>Description</b>	The reason for the ethernet-segment being down in the bgp-instance
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id</a> <i>reference</i> <a href="#">ethernet-segment name</a> <i>string</i> <a href="#">oper-down-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• admin-disabled</li> <li>• no-nexthop-address</li> <li>• no-originating-address</li> <li>• no-associated-interface</li> <li>• associated-interface-oper-down</li> <li>• no-esi</li> <li>• no-esi-label</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-esi** *string*

<b>Description</b>	The operational Ethernet Segment Identifier used in the ethernet segment.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id</a> <i>reference</i> <a href="#">ethernet-segment name</a> <i>string</i> <a href="#">oper-esi</a> <i>string</i>
<b>Tree</b>	<a href="#">oper-esi</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**oper-multi-homing-mode** *keyword*

<b>Description</b>	Operational Multi-homing mode of the ethernet segment.  The state of this leaf can be different than the configured value in cases where the configured value is 'all-active' and the multi-homing mode advertised by the ES peers in the AD per-ES routes is 'single-active'. In this case, the state of this leaf will show 'single-active'.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id</a> <i>reference</i> <a href="#">ethernet-segment name</a> <i>string</i> <a href="#">oper-multi-homing-mode</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-multi-homing-mode</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• all-active</li> </ul>

<b>Configurable</b>	• single-active False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-state** *keyword*

<b>Description</b>	This leaf contains the operational state of ethernet segment.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id</a> <i>reference ethernet-segment name string oper-state keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting</li> </ul>

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## routes

**Description**

Enter the routes context

**Context**

[system network-instance protocols evpn ethernet-segments bgp-instance id](#)  
*reference* [ethernet-segment name](#) *string* routes

**Tree**

[routes](#)

**Configurable**

True

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## ethernet-segment

**Description**

Enter the ethernet-segment context

**Context**

[system network-instance protocols evpn ethernet-segments bgp-instance id](#)  
*reference* [ethernet-segment name](#) *string* routes ethernet-segment

**Tree**

[ethernet-segment](#)

**Configurable**

True

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## originating-ip *keyword*

**Description**

The originating ip-address that the inclusive multicast route will be advertised with in this evpn instance

**Context**

[system network-instance protocols evpn ethernet-segments bgp-instance id](#)  
*reference* [ethernet-segment name](#) *string* routes ethernet-segment  
*originating-ip* *keyword*



<b>Tree</b>	<a href="#">originating-ip</a>
<b>Default</b>	use-system-ipv4-address
<b>Options</b>	<ul style="list-style-type: none"> <li>• use-system-ipv4-address</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### next-hop *keyword*

<b>Description</b>	The ip-address that will be used as the bgp-next hop for all ES and AD per-ES routes advertised for this Ethernet Segment.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string routes next-hop keyword</a>
<b>Tree</b>	<a href="#">next-hop</a>
<b>Default</b>	use-system-ipv4-address
<b>Options</b>	<ul style="list-style-type: none"> <li>• use-system-ipv4-address</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### type *keyword*

<b>Description</b>	Ethernet Segment type.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments bgp-instance id reference ethernet-segment name string type keyword</a>
<b>Tree</b>	<a href="#">type</a>
<b>Default</b>	none
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• virtual</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### timers

<b>Description</b>	Enter the timers context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments timers</a>

<b>Tree</b>	<a href="#">timers</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### activation-timer *number*

<b>Description</b>	Enter the activation-timer context
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments timers activation-timer number</a>
<b>Tree</b>	<a href="#">activation-timer</a>
<b>Range</b>	0 to 100
<b>Default</b>	3
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### boot-remaining-time *number*

<b>Description</b>	Indicates the number of seconds remaining for the boot timer to expire.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments timers boot-remaining-time number</a>
<b>Tree</b>	<a href="#">boot-remaining-time</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### boot-start-time *string*

<b>Description</b>	Indicates the time at which the boot timer started.
<b>Context</b>	<a href="#">system network-instance protocols evpn ethernet-segments timers boot-start-time string</a>
<b>Tree</b>	<a href="#">boot-start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **boot-timer** *number*

**Description** Remaining time before running BGP EVPN multi-homing DF election algorithm

**Context** [system network-instance protocols evpn ethernet-segments timers boot-timer](#) *number*

**Tree** [boot-timer](#)

**Range** 0 to 6000

**Default** 10

**Units** seconds

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **ntp**

**Description** Top-level container for NTP configuration and state

**Context** [system ntp](#)

**Tree** [ntp](#)

**Configurable** True

**Platforms** Supported on all platforms

### **admin-state** *keyword*

**Description** Enables the system NTP client and indicates that the system should attempt to synchronize the clock

**Context** [system ntp admin-state](#) *keyword*

**Tree** [admin-state](#)

**Options**

- enable
- disable

**Configurable** True

**Platforms** Supported on all platforms

**network-instance** *reference*

<b>Description</b>	Reference to a configured network-instance
<b>Context</b>	<a href="#">system ntp network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**oper-state** *keyword*

<b>Description</b>	Details the operational state of the NTP client
<b>Context</b>	<a href="#">system ntp oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot</li> </ul>

Component or process is currently warm rebooting

This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.

- waiting

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **server address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of NTP servers to use for system clock synchronization
<b>Context</b>	<a href="#">system ntp server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	IP address of the NTP server, may be either IPv4 or IPv6
<b>Context</b>	<a href="#">system ntp server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **iburst** *boolean*

<b>Description</b>	Indicates whether this server should enable burst synchronization or not. <code>iburst</code> , or initial burst, improves the time taken for initial synchronization by sending a burst of eight packets instead of the usual one, these packets are spaced by a two second delay.
<b>Context</b>	<a href="#">system ntp server address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">iburst</a> <i>boolean</i>
<b>Tree</b>	<a href="#">iburst</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**jitter number**

<b>Description</b>	Measurement of the variance in latency on the network
<b>Context</b>	<a href="#">system ntp server address</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a> ) <a href="#">jitter number</a>
<b>Tree</b>	<a href="#">jitter</a>
<b>Units</b>	milliseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**offset number**

<b>Description</b>	Estimate of the current time offset from the peer This is the time difference between the local and reference clock.
<b>Context</b>	<a href="#">system ntp server address</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a> ) <a href="#">offset number</a>
<b>Tree</b>	<a href="#">offset</a>
<b>Units</b>	microseconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**poll-interval number**

<b>Description</b>	Polling interval of the peer
<b>Context</b>	<a href="#">system ntp server address</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a> ) <a href="#">poll-interval number</a>
<b>Tree</b>	<a href="#">poll-interval</a>
<b>Units</b>	seconds
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**prefer boolean**

<b>Description</b>	Indicates whether this server should be preferred or not All other things being equal, this host will be chosen for synchronization among a set of correctly operating NTP servers
<b>Context</b>	<a href="#">system ntp server address</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a> ) <a href="#">prefer boolean</a>
<b>Tree</b>	<a href="#">prefer</a>
<b>Default</b>	false

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **stratum number**

<b>Description</b>	Indicates the level of the server in the NTP hierarchy as number increases, the accuracy is degraded. Primary servers are stratum 1 while a maximum value of 16 indicates unsynchronized. The values have the following meanings: 0 unspecified or invalid 1 primary server (e.g., equipped with a GPS receiver) 2-15 secondary server (via NTP) 16 unsynchronized 17-255 reserved
<b>Context</b>	<a href="#">system ntp server address</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a> ) <a href="#">stratum number</a>
<b>Tree</b>	<a href="#">stratum</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **synchronized** ([ipv4-address](#) | [ipv6-address](#) | [string](#))

<b>Description</b>	Address of the NTP server that the local client is synchronized to This field is set to 'unsynchronized', if the local client is not synchronized
<b>Context</b>	<a href="#">system ntp synchronized</a> ( <a href="#">ipv4-address</a>   <a href="#">ipv6-address</a>   <a href="#">string</a> )
<b>Tree</b>	<a href="#">synchronized</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **p4rt-server**

<b>Description</b>	Configures the P4Runtime service
<b>Context</b>	<a href="#">system p4rt-server</a>
<b>Tree</b>	<a href="#">p4rt-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **admin-state** *keyword*

<b>Description</b>	Globally enable or disable the P4Runtime service Disabling this will disable all P4Runtime sockets in all configured network-instances (including unix sockets).
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<b>Context</b>	<a href="#">system p4rt-server admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**client id number**

<b>Description</b>	List of active P4Runtime client sessions
<b>Context</b>	<a href="#">system p4rt-server client id</a> <i>number</i>
<b>Tree</b>	<a href="#">client</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**id number**

<b>Description</b>	System generated ID for for the client
<b>Context</b>	<a href="#">system p4rt-server client id</a> <i>number</i>
<b>Range</b>	0 to 4294967295
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**election-id string**

<b>Description</b>	Election ID of this client
<b>Context</b>	<a href="#">system p4rt-server client id</a> <i>number election-id</i> <i>string</i>
<b>Tree</b>	<a href="#">election-id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**forwarding-complex**

<b>Description</b>	Enter the forwarding-complex context
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<b>Context</b>	<a href="#">system p4rt-server client id number forwarding-complex</a>
<b>Tree</b>	<a href="#">forwarding-complex</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**id number**

<b>Description</b>	The P4Runtime ID of the forwarding complex for which this client has established itself  This is the value configured at /platform/linecard/forwarding-complex/p4rt/id, or a system derived default.
<b>Context</b>	<a href="#">system p4rt-server client id number forwarding-complex id number</a>
<b>Tree</b>	<a href="#">id</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**location string**

<b>Description</b>	The normalized location for this forwarding-complex  This is the slot number and complex number separated by a '/', 0 indexed. For example '1/0', or '1/1' representing two forwarding complexes on slot 1.
<b>Context</b>	<a href="#">system p4rt-server client id number forwarding-complex location string</a>
<b>Tree</b>	<a href="#">location</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**primary boolean**

<b>Description</b>	Indicates if this client is the primary for the specified forwarding complex  Only a single primary per forwarding complex is supported
<b>Context</b>	<a href="#">system p4rt-server client id number primary boolean</a>
<b>Tree</b>	<a href="#">primary</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**remote-host** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Remote host of the client
<b>Context</b>	<a href="#">system p4rt-server client id number remote-host</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">remote-host</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**remote-port** *number*

<b>Description</b>	Remote port of the client
<b>Context</b>	<a href="#">system p4rt-server client id number remote-port</a> <i>number</i>
<b>Tree</b>	<a href="#">remote-port</a>
<b>Range</b>	0 to 65535
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**start-time** *string*

<b>Description</b>	Time the client first connected
<b>Context</b>	<a href="#">system p4rt-server client id number start-time</a> <i>string</i>
<b>Tree</b>	<a href="#">start-time</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**user** *string*

<b>Description</b>	Authenticated username for the client
<b>Context</b>	<a href="#">system p4rt-server client id number user</a> <i>string</i>
<b>Tree</b>	<a href="#">user</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**user-agent** *string*

<b>Description</b>	User agent used for by the client
<b>Context</b>	<a href="#">system p4rt-server client id</a> <i>number</i> <a href="#">user-agent</a> <i>string</i>
<b>Tree</b>	<a href="#">user-agent</a>
<b>Configurable</b>	False
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**network-instance** [name](#) *reference*

<b>Description</b>	List of network instances to run a P4Runtime socket in
<b>Context</b>	<a href="#">system p4rt-server network-instance</a> <a href="#">name</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**name** *reference*

<b>Description</b>	Reference to a configured network instance
<b>Context</b>	<a href="#">system p4rt-server network-instance</a> <a href="#">name</a> <i>reference</i>
<b>Reference</b>	<a href="#">network-instance</a> <a href="#">name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the P4Runtime service
<b>Context</b>	<a href="#">system p4rt-server network-instance</a> <a href="#">name</a> <i>reference</i> <a href="#">admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-state** *keyword*

<b>Description</b>	Details if the P4Runtime service is operationally available
<b>Context</b>	<a href="#">system p4rt-server network-instance name</a> <i>reference</i> <a href="#">oper-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting This state can be set by event handler when the <code>reinvoke-with-delay</code> action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **port number**

**Description** TCP port the P4Runtime server will listen on for incoming connections

**Context** [system p4rt-server network-instance name reference port number](#)

**Tree** [port](#)

**Range** 0 to 65535

**Default** 9559

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **source-address (ipv4-address | ipv6-address)**

**Description** List of IP addresses the P4Runtime server will listen on within the network instance

By default the P4Runtime server will listen on all addresses in the network-instance.

**Context** [system p4rt-server network-instance name reference source-address \(ipv4-address | ipv6-address\)](#)

**Tree** [source-address](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **tls-profile reference**

**Description** Reference to the TLS profile to use on the P4Runtime server

**Context** [system p4rt-server network-instance name reference tls-profile reference](#)

**Tree** [tls-profile](#)

**Reference** [system tls server-profile name string](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **use-authentication boolean**

**Description** Enable or disable the use of username/password authentication for every P4Runtime RPC request

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<b>Context</b>	<a href="#">system p4rt-server network-instance name reference use-authentication</a> <i>boolean</i>
<b>Tree</b>	<a href="#">use-authentication</a>
<b>Default</b>	true
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**rate-limit** *number*

<b>Description</b>	Set a limit on the number of connection attempts per minute
<b>Context</b>	<a href="#">system p4rt-server rate-limit number</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Range</b>	0 to 65535
<b>Default</b>	60
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**session-limit** *number*

<b>Description</b>	Set a limit on the number of simultaneous active P4Runtime sessions A session is defined as an individual RPC invocation, which could result in a single client generating multiple sessions.
<b>Context</b>	<a href="#">system p4rt-server session-limit number</a>
<b>Tree</b>	<a href="#">session-limit</a>
<b>Range</b>	0 to 65535
<b>Default</b>	20
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**timeout** *number*

<b>Description</b>	Set the idle timeout in seconds on P4Runtime clients
<b>Context</b>	<a href="#">system p4rt-server timeout number</a>
<b>Tree</b>	<a href="#">timeout</a>
<b>Range</b>	0 to 65535
<b>Default</b>	7200

<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **trace-options** *keyword*

<b>Description</b>	P4Runtime trace options
<b>Context</b>	<a href="#">system p4rt-server trace-options</a> <i>keyword</i>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• request</li> <li>• response</li> <li>• common</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **unix-socket**

<b>Description</b>	Top-level container for configuration and state related to unix sockets
<b>Context</b>	<a href="#">system p4rt-server unix-socket</a>
<b>Tree</b>	<a href="#">unix-socket</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **admin-state** *keyword*

<b>Description</b>	Administratively enable or disable the P4Runtime service
<b>Context</b>	<a href="#">system p4rt-server unix-socket admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**oper-state** *keyword*

<b>Description</b>	Details if the P4Runtime service is operationally available
<b>Context</b>	<a href="#">system</a> <a href="#">p4rt-server</a> <a href="#">unix-socket</a> <b>oper-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting Component or process is currently waiting This state can be set by event handler when the <code>reinvoke-with-delay</code> action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.</li> </ul>
<b>Configurable</b>	False



**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **socket-path** *string*

**Description** Path to the unix socket used by P4Runtime

**Context** [system p4rt-server unix-socket socket-path](#) *string*

**Tree** [socket-path](#)

**Configurable** False

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **tls-profile** *reference*

**Description** Reference to the TLS profile to use on the P4Runtime unix socket server  
If none is specified, then TLS is not used.

**Context** [system p4rt-server unix-socket tls-profile](#) *reference*

**Tree** [tls-profile](#)

**Reference** [system tls server-profile name](#) *string*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **use-authentication** *boolean*

**Description** Enable or disable the use of username/password authentication for every P4Runtime RPC request

**Context** [system p4rt-server unix-socket use-authentication](#) *boolean*

**Tree** [use-authentication](#)

**Default** true

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **ra-guard-policy** *name string*

**Description** List containing RA Guard Policy and parameters

**Context** [system ra-guard-policy name](#) *string*

**Tree** [ra-guard-policy](#)

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**Max. Elements** 64

### **name** *string*

**Description** RA Guard Policy name

**Context** [system ra-guard-policy name](#) *string*

**String Length** 1 to 255

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **action** *keyword*

**Description** Describes the RA Guard Policy action for RA Messages matching the specified attributes. RA Messages no matching the specified attributes will be handled in the opposite manner.

**Context** [system ra-guard-policy name](#) *string* [action](#) *keyword*

**Tree** [action](#)

**Default** discard

**Options**

- accept
- discard

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### **advertise-prefix-set** *reference*

**Description** Reference to a prefix set to match advertised address within RA message

**Context** [system ra-guard-policy name](#) *string* [advertise-prefix-set](#) *reference*

**Tree** [advertise-prefix-set](#)

**Reference** [routing-policy prefix-set name](#) *string*

**Configurable** True

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**hop-limit** *number*

<b>Description</b>	Verifies the minimum advertised hop count limit. If not specified the verification is skipped.
<b>Context</b>	<a href="#">system ra-guard-policy name</a> <i>string</i> <a href="#">hop-limit</a> <i>number</i>
<b>Tree</b>	<a href="#">hop-limit</a>
<b>Range</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**managed-config-flag** *boolean*

<b>Description</b>	Causes the RA Guard policy to match IPv6 RA messages with the M (Managed address) flag set. If not specified the verification is skipped.
<b>Context</b>	<a href="#">system ra-guard-policy name</a> <i>string</i> <a href="#">managed-config-flag</a> <i>boolean</i>
<b>Tree</b>	<a href="#">managed-config-flag</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**other-config-flag** *boolean*

<b>Description</b>	Causes the RA Guard policy to match IPv6 RA messages with the O (Other config) flag set. If not specified the verification is skipped.
<b>Context</b>	<a href="#">system ra-guard-policy name</a> <i>string</i> <a href="#">other-config-flag</a> <i>boolean</i>
<b>Tree</b>	<a href="#">other-config-flag</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

**router-preference** *keyword*

<b>Description</b>	Verifies that the advertised default router preference parameter value is equal to or less than the specified limit. If not specified the verification is skipped.
<b>Context</b>	<a href="#">system ra-guard-policy name</a> <i>string</i> <a href="#">router-preference</a> <i>keyword</i>
<b>Tree</b>	<a href="#">router-preference</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>high</li> </ul>

	<ul style="list-style-type: none"> <li>• medium</li> <li>• low</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### source-prefix-set *reference*

<b>Description</b>	Reference to a prefix set to match RA source address. If not specified the verification is skipped.
<b>Context</b>	<a href="#">system ra-guard-policy name</a> <i>string</i> <a href="#">source-prefix-set reference</a>
<b>Tree</b>	<a href="#">source-prefix-set</a>
<b>Reference</b>	<a href="#">routing-policy prefix-set name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

### sflow

<b>Description</b>	Context to configure sFlow Agent parameters and report sFlow state
<b>Context</b>	<a href="#">system sflow</a>
<b>Tree</b>	<a href="#">sflow</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### admin-state *keyword*

<b>Description</b>	Administratively enable or disable sFlow for the system
<b>Context</b>	<a href="#">system sflow admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Default</b>	disable
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**collector** [collector-id](#) *number*

<b>Description</b>	List of sFlow collectors to which sFlow sample data is sent
<b>Context</b>	<a href="#">system sflow collector collector-id</a> <i>number</i>
<b>Tree</b>	<a href="#">collector</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	8

**collector-id** *number*

<b>Description</b>	Specify the collector ID
<b>Context</b>	<a href="#">system sflow collector collector-id</a> <i>number</i>
<b>Range</b>	1 to 8
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**collector-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address for an sFlow collector
<b>Context</b>	<a href="#">system sflow collector collector-id</a> <i>number</i> <a href="#">collector-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">collector-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance** *reference*

<b>Description</b>	Reference to a configured network-instance
<b>Context</b>	<a href="#">system sflow collector collector-id</a> <i>number</i> <a href="#">network-instance</a> <i>reference</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Reference</b>	<a href="#">network-instance</a> <i>name</i> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**next-hop** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Specifies the active IP next hop used to reach the associated collector
<b>Context</b>	<a href="#">system sflow collector collector-id number next-hop</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">next-hop</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**port** *number*

<b>Description</b>	Specifies the destination UDP port number to be used in sFlow packets
<b>Context</b>	<a href="#">system sflow collector collector-id number port</a> <i>number</i>
<b>Tree</b>	<a href="#">port</a>
<b>Default</b>	6343
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	Specifies the IP address to be used as the source address in sFlow packets
<b>Context</b>	<a href="#">system sflow collector collector-id number source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sample-rate** *number*

<b>Description</b>	Specify sFlow sample rate  This value is the rate at which traffic will be sampled at a rate of 1:N received packets.
<b>Context</b>	<a href="#">system sflow sample-rate</a> <i>number</i>
<b>Tree</b>	<a href="#">sample-rate</a>
<b>Range</b>	1 to 2000000
<b>Default</b>	10000
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **sample-size** *number*

**Description** Specify sFlow sample size  
This value specifies the number of bytes the sFlow agent samples from each frame.

**Context** [system sflow sample-size](#) *number*

**Tree** [sample-size](#)

**Range** 256

**Default** 256

**Configurable** True

**Platforms** Supported on all platforms

### **source-address** (*ipv4-address* | *ipv6-address*)

**Description** Specifies the IP address to be used as the source address in sFlow packets

**Context** [system sflow source-address](#) (*ipv4-address* | *ipv6-address*)

**Tree** [source-address](#)

**Configurable** True

**Platforms** Supported on all platforms

### **statistics**

**Description** Enter the statistics context

**Context** [system sflow statistics](#)

**Tree** [statistics](#)

**Configurable** False

**Platforms** Supported on all platforms

### **total-offered-packets** *number*

**Description** Total number of packets subject to sFlow sampling

**Context** [system sflow statistics total-offered-packets](#) *number*

**Tree** [total-offered-packets](#)

**Default** 0

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-samples-taken** *number*

<b>Description</b>	Total number of sFlow samples taken
<b>Context</b>	<a href="#">system sflow statistics total-samples-taken</a> <i>number</i>
<b>Tree</b>	<a href="#">total-samples-taken</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**total-sent-packets** *number*

<b>Description</b>	Total number of sFlow packets sent to collectors
<b>Context</b>	<a href="#">system sflow statistics total-sent-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">total-sent-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

**snmp**

<b>Description</b>	Top-level container for SNMP configuration and state
<b>Context</b>	<a href="#">system snmp</a>
<b>Tree</b>	<a href="#">snmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**community** *string*

<b>Description</b>	Enter the community context
<b>Context</b>	<a href="#">system snmp community</a> <i>string</i>
<b>Tree</b>	<a href="#">community</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True



**Platforms** Supported on all platforms

### **network-instance** [name](#) *reference*

**Description** List of network-instances to run an SNMP server in  
**Context** [system snmp network-instance name](#) *reference*  
**Tree** [network-instance](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### **name** *reference*

**Description** Reference to a configured network-instance  
**Context** [system snmp network-instance name](#) *reference*  
**Reference** [network-instance name](#) *string*  
**Configurable** True  
**Platforms** Supported on all platforms

### **admin-state** *keyword*

**Description** Enables the SNMP server in this network-instance  
**Context** [system snmp network-instance name](#) *reference* [admin-state](#) *keyword*  
**Tree** [admin-state](#)  
**Options**

- enable
- disable

**Configurable** True  
**Platforms** Supported on all platforms

### **oper-state** *keyword*

**Description** Details the operational state of the SNMP server  
**Context** [system snmp network-instance name](#) *reference* [oper-state](#) *keyword*  
**Tree** [oper-state](#)  
**Options**

- up  
Component or process is operational
- down

- Component or process is not operational
- empty  
Component slot is empty
- downloading  
Component is downloading image into memory
- booting  
Component is booting downloaded image
- starting  
Component image operational, application processes starting
- failed  
Component or process has failed
- synchronizing  
Component is currently being synchronized
- upgrading  
Component is currently being upgraded
- low-power  
Component is offline due to insufficient system power
- degraded  
Component or process is in a degraded state
- warm-reboot  
Component or process is currently warm rebooting  
This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.
- waiting  
Component or process is currently waiting  
This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **source-address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	List of IP addresses for the SNMP server to listen on within the network-instance
<b>Context</b>	<a href="#">system snmp network-instance name reference source-address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )

---

<b>Tree</b>	<a href="#">source-address</a>
<b>Default</b>	::
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ssh-server

<b>Description</b>	Top-level container for SSH server configuration and state
<b>Context</b>	<a href="#">system ssh-server</a>
<b>Tree</b>	<a href="#">ssh-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## network-instance [name reference](#)

<b>Description</b>	List of network-instances to run an SSH server in
<b>Context</b>	<a href="#">system ssh-server network-instance name reference</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## name *reference*

<b>Description</b>	Reference to a configured network-instance
<b>Context</b>	<a href="#">system ssh-server network-instance name reference</a>
<b>Reference</b>	<a href="#">network-instance name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## admin-state *keyword*

<b>Description</b>	Enables the SSH server in this network-instance
<b>Context</b>	<a href="#">system ssh-server network-instance name reference admin-state keyword</a>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>enable</li> </ul>

<b>Configurable</b>	• disable True
<b>Platforms</b>	Supported on all platforms

### **oper-state** *keyword*

<b>Description</b>	Details the operational state of the SSH server
<b>Context</b>	<a href="#">system ssh-server network-instance name</a> <i>reference</i> <b>oper-state</b> <i>keyword</i>
<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up Component or process is operational</li> <li>• down Component or process is not operational</li> <li>• empty Component slot is empty</li> <li>• downloading Component is downloading image into memory</li> <li>• booting Component is booting downloaded image</li> <li>• starting Component image operational, application processes starting</li> <li>• failed Component or process has failed</li> <li>• synchronizing Component is currently being synchronized</li> <li>• upgrading Component is currently being upgraded</li> <li>• low-power Component is offline due to insufficient system power</li> <li>• degraded Component or process is in a degraded state</li> <li>• warm-reboot Component or process is currently warm rebooting  This state is set during a warm reboot immediately following initiation of the reboot, continuing after startup until the system has completed audit. In this state the system will not accept configuration changes.</li> <li>• waiting</li> </ul>

Component or process is currently waiting

This state can be set by event handler when the `reinvoke-with-delay` action is used, and indicates that the event handler is waiting for the provided delay before reinvoking the instance.

<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **protocol-version** *number*

<b>Description</b>	Protocol version in use by the SSH server
<b>Context</b>	<a href="#">system ssh-server network-instance name</a> <i>reference</i> <a href="#">protocol-version number</a>
<b>Tree</b>	<a href="#">protocol-version</a>
<b>Configurable</b>	False
<b>Platforms</b>	Supported on all platforms

### **rate-limit** *number*

<b>Description</b>	Set a limit on the number of unauthenticated sessions to the SSH server after this number is met, the server will start dropping connection attempts
<b>Context</b>	<a href="#">system ssh-server network-instance name</a> <i>reference</i> <a href="#">rate-limit number</a>
<b>Tree</b>	<a href="#">rate-limit</a>
<b>Default</b>	20
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **source-address** (*ipv4-address | ipv6-address*)

<b>Description</b>	List of IP addresses for the SSH server to listen on within the network-instance
<b>Context</b>	<a href="#">system ssh-server network-instance name</a> <i>reference</i> <a href="#">source-address (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">source-address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**timeout** *number*

<b>Description</b>	Set the idle timeout in seconds on SSH connections
<b>Context</b>	<a href="#">system ssh-server network-instance name</a> <i>reference</i> <a href="#">timeout number</a>
<b>Tree</b>	<a href="#">timeout</a>
<b>Default</b>	0
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**tls**

<b>Description</b>	Top-level container for TLS configuration and state
<b>Context</b>	<a href="#">system tls</a>
<b>Tree</b>	<a href="#">tls</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**server-profile** *name string*

<b>Description</b>	List of configured TLS server profiles
<b>Context</b>	<a href="#">system tls server-profile name</a> <i>string</i>
<b>Tree</b>	<a href="#">server-profile</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the TLS server-profile
<b>Context</b>	<a href="#">system tls server-profile name</a> <i>string</i>
<b>String Length</b>	1 to 247
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**authenticate-client** *boolean*

<b>Description</b>	Defines if the server should authenticate the identity of connecting clients using the trust anchor
<b>Context</b>	<a href="#">system tls server-profile name</a> <i>string</i> <a href="#">authenticate-client</a> <i>boolean</i>
<b>Tree</b>	<a href="#">authenticate-client</a>
<b>Default</b>	false
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**certificate** *string*

<b>Description</b>	Base64 encoded certificate to use with the private key this includes the '--BEGIN CERTIFICATE-----' and '-----END CERTIFICATE-----' header and footer
<b>Context</b>	<a href="#">system tls server-profile name</a> <i>string</i> <a href="#">certificate</a> <i>string</i>
<b>Tree</b>	<a href="#">certificate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**cipher-list** *identityref*

<b>Description</b>	List of ciphers to use when negotiating TLS with clients
<b>Context</b>	<a href="#">system tls server-profile name</a> <i>string</i> <a href="#">cipher-list</a> <i>identityref</i>
<b>Tree</b>	<a href="#">cipher-list</a>
<b>Default</b>	ecdhe-rsa-aes128-gcm-sha256
<b>Options</b>	<ul style="list-style-type: none"> <li>• ecdhe-rsa-aes256-gcm-sha384</li> <li>• ecdhe-ecdsa-aes256-gcm-sha384</li> <li>• ecdhe-rsa-aes256-sha384</li> <li>• ecdhe-ecdsa-aes256-sha384</li> <li>• ecdhe-rsa-aes256-sha</li> <li>• ecdhe-ecdsa-aes256-sha</li> <li>• dhe-dss-aes256-gcm-sha384</li> <li>• dhe-rsa-aes256-gcm-sha384</li> <li>• dhe-rsa-aes256-sha256</li> <li>• dhe-dss-aes256-sha256</li> <li>• dhe-rsa-aes256-sha</li> </ul>

- 
- dhe-dss-aes256-sha
  - dhe-rsa-camellia256-sha
  - dhe-dss-camellia256-sha
  - aes256-gcm-sha384
  - aes256-sha256
  - aes256-sha
  - camellia256-sha
  - psk-aes256-cbc-sha
  - ecdhe-rsa-aes128-gcm-sha256
  - ecdhe-ecdsa-aes128-gcm-sha256
  - ecdhe-rsa-aes128-sha256
  - ecdhe-ecdsa-aes128-sha256
  - ecdhe-rsa-aes128-sha
  - ecdhe-ecdsa-aes128-sha
  - dhe-dss-aes128-gcm-sha256
  - dhe-rsa-aes128-gcm-sha256
  - dhe-rsa-aes128-sha256
  - dhe-dss-aes128-sha256
  - dhe-rsa-aes128-sha
  - dhe-dss-aes128-sha
  - dhe-rsa-seed-sha
  - dhe-dss-seed-sha
  - dhe-rsa-camellia128-sha
  - dhe-dss-camellia128-sha
  - aes128-gcm-sha256
  - aes128-sha256
  - aes128-sha
  - seed-sha
  - camellia128-sha
  - psk-aes128-cbc-sha
  - ecdhe-rsa-des-cbc3-sha
  - ecdhe-ecdsa-des-cbc3-sha
  - edh-rsa-des-cbc3-sha
  - edh-dss-des-cbc3-sha
  - des-cbc3-sha
  - idea-cbc-sha



- psk-3des-ede-cbc-sha
- ecdhe-rsa-rc4-sha
- ecdhe-ecdsa-rc4-sha
- rc4-sha
- psk-rc4-sha

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **key string**

<b>Description</b>	Base64 encoded key to use with the server certificate This includes the '-----BEGIN PRIVATE KEY-----', and '-----END PRIVATE KEY-----' header and footer The value is hashed, and only the hashed value is kept
<b>Context</b>	<a href="#">system tls server-profile name string key string</a>
<b>Tree</b>	<a href="#">key</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trust-anchor string**

<b>Description</b>	Base64 encoded certificate to use as a trust anchor This includes the '-----BEGIN CERTIFICATE-----' and '-----END CERTIFICATE-----' header and footer
<b>Context</b>	<a href="#">system tls server-profile name string trust-anchor string</a>
<b>Tree</b>	<a href="#">trust-anchor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **trace-options keyword**

<b>Description</b>	Management server trace options
<b>Context</b>	<a href="#">system trace-options keyword</a>
<b>Tree</b>	<a href="#">trace-options</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• request</li> <li>• response</li> <li>• common</li> </ul>

---

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### warm-reboot

<b>Description</b>	Top-level container for warm reboot options
<b>Context</b>	<a href="#">system warm-reboot</a>
<b>Tree</b>	<a href="#">warm-reboot</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### bgp-max-wait *number*

<b>Description</b>	<p>The maximum amount of time that BGP will wait to receive End of RIB markers from all peers and for all address families that were up prior to warm reboot (in all network instances).</p> <p>After this time elapses BGP declares that convergence has occurred and sends its own EOR markers to its peers.</p>
<b>Context</b>	<a href="#">system warm-reboot bgp-max-wait <i>number</i></a>
<b>Tree</b>	<a href="#">bgp-max-wait</a>
<b>Range</b>	0 to 3600
<b>Default</b>	600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

# 11 tools acl

```

acl
+ cpm-filter
+ ipv4-filter
  + clear
  + entry sequence-id number
    + statistics
      + clear
+ ipv6-filter
  + clear
  + entry sequence-id number
    + statistics
      + clear
+ mac-filter
  + clear
  + entry sequence-id number
    + statistics
      + clear
+ ipv4-filter name string
+ entry sequence-id number
+ statistics
  + clear
  + per-interface
    + subinterface name string
      + clear
+ statistics
  + clear
+ ipv6-filter name string
+ entry sequence-id number
+ statistics
  + clear
  + per-interface
    + subinterface name string
      + clear
+ statistics
  + clear
+ mac-filter name string
+ entry sequence-id number
+ statistics
  + clear
  + per-interface
    + subinterface name string
      + clear
+ statistics
  + clear
+ policers
+ policer name string
+ statistics
  + clear
+ system-cpu-policer name string
+ statistics
  + clear
+ system-filter
+ ipv4-filter
  + clear
  + entry sequence-id number
    + statistics

```

```
        + clear
+ ipv6-filter
  + clear
  + entry sequence-id number
    + statistics
      + clear
qos
+ classifiers
  + multifold
    + ipv4-policy name string
    + ipv6-policy name string
```

## 11.1 acl Descriptions

### acl

<b>Description</b>	Top level enclosing container for ACL operational tools
<b>Context</b>	<a href="#">acl</a>
<b>Tree</b>	<a href="#">acl</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### cpm-filter

<b>Description</b>	List of CPM filters
<b>Context</b>	<a href="#">acl cpm-filter</a>
<b>Tree</b>	<a href="#">cpm-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv4-filter

<b>Description</b>	List of CPM IPv4 filter rules
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### clear

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl cpm-filter ipv4-filter clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry** [sequence-id](#) *number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv4-filter</a> <a href="#">entry</a> <a href="#">sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-filter**

<b>Description</b>	List of CPM IPv6 filter rules
<b>Context</b>	<a href="#">acl</a> <a href="#">cpm-filter</a> <a href="#">ipv6-filter</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## entry [sequence-id](#) *number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## sequence-id *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl cpm-filter ipv6-filter entry sequence-id number statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac-filter**

<b>Description</b>	List of CPM MAC filter rules
<b>Context</b>	<a href="#">acl cpm-filter mac-filter</a>
<b>Tree</b>	<a href="#">mac-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl cpm-filter mac-filter clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry [sequence-id number](#)**

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id *number***

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Reset all statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl cpm-filter mac-filter entry sequence-id number statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv4-filter *name string*

<b>Description</b>	List of IPv4 filter policies
<b>Context</b>	<a href="#">acl ipv4-filter name string</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## name *string*

<b>Description</b>	Name of the IPv4 filter policy.
<b>Context</b>	<a href="#">acl ipv4-filter name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry** *sequence-id number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all aggregate and per-interface statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**per-interface**

<b>Description</b>	Container for per-subinterface per-entry statistics
<b>Context</b>	<a href="#">acl ipv4-filter name</a> <i>string</i> <a href="#">entry</a> <i>sequence-id number</i> <a href="#">statistics</a> <a href="#">per-interface</a>

<b>Tree</b>	<a href="#">per-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### subinterface *name string*

<b>Description</b>	List of subinterfaces where the ACL is applied to either input or output traffic
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics per-interface subinterface name string</a>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics per-interface subinterface name string</a>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### clear

<b>Description</b>	Reset the per-interface statistics associated with this particular entry and this particular subinterface to zero
<b>Context</b>	<a href="#">acl ipv4-filter name string entry sequence-id number statistics per-interface subinterface name string clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl ipv4-filter name string statistics</a>
<b>Tree</b>	<a href="#">statistics</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl ipv4-filter name string statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-filter name string**

<b>Description</b>	List of IPv6 filter policies
<b>Context</b>	<a href="#">acl ipv6-filter name string</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name string**

<b>Description</b>	Name of the IPv6 filter policy.
<b>Context</b>	<a href="#">acl ipv6-filter name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry sequence-id number**

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl ipv6-filter name string entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**sequence-id** *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all aggregate and per-interface statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**per-interface**

<b>Description</b>	Container for per-subinterface per-entry statistics
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">per-interface</a>
<b>Tree</b>	<a href="#">per-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subinterface** *name string*

<b>Description</b>	List of subinterfaces where the ACL is applied to either input or output traffic
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics</a> <a href="#">per-interface</a> <a href="#">subinterface name</a> <i>string</i>

<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Enter the name context
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset the per-interface statistics associated with this particular entry and this particular subinterface to zero
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl ipv6-filter name</a> <i>string</i> <a href="#">statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

### **mac-filter** *name string*

**Description** List of MAC filter policies  
**Context** [acl mac-filter name string](#)  
**Tree** [mac-filter](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### **name** *string*

**Description** Name of the MAC filter policy.  
**Context** [acl mac-filter name string](#)  
**String Length** 1 to 255  
**Configurable** True  
**Platforms** Supported on all platforms

### **entry** *sequence-id number*

**Description** List of filter rules.  
**Context** [acl mac-filter name string entry sequence-id number](#)  
**Tree** [entry](#)  
**Configurable** True  
**Platforms** Supported on all platforms

### **sequence-id** *number*

**Description** A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries  
**Context** [acl mac-filter name string entry sequence-id number](#)  
**Configurable** True  
**Platforms** Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all aggregate and per-interface statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**per-interface**

<b>Description</b>	Container for per-subinterface per-entry statistics
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface</a>
<b>Tree</b>	<a href="#">per-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**subinterface** [name](#) *string*

<b>Description</b>	List of subinterfaces where the ACL is applied to either input or output traffic
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Enter the name context
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<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset the per-interface statistics associated with this particular entry and this particular subinterface to zero
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">entry sequence-id</a> <i>number</i> <a href="#">statistics per-interface subinterface name</a> <i>string</i> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl mac-filter name</a> <i>string</i> <a href="#">statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**policers**

<b>Description</b>	List of policers used by ACL entries
<b>Context</b>	<a href="#">acl policers</a>
<b>Tree</b>	<a href="#">policers</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**policer name string**

<b>Description</b>	List of hardware policers
<b>Context</b>	<a href="#">acl policers policer name string</a>
<b>Tree</b>	<a href="#">policer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name string**

<b>Description</b>	Name of the hardware policer
<b>Context</b>	<a href="#">acl policers policer name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl policers policer name string statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics associated with this particular policer to zero
<b>Context</b>	<a href="#">acl policers policer name string statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**system-cpu-policer** *name string*

<b>Description</b>	List of system CPU policers
<b>Context</b>	<a href="#">acl policers system-cpu-policer name string</a>
<b>Tree</b>	<a href="#">system-cpu-policer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the system cpu policer
<b>Context</b>	<a href="#">acl policers system-cpu-policer name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl policers system-cpu-policer name string statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics associated with this particular policer to zero
<b>Context</b>	<a href="#">acl policers system-cpu-policer name string statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**system-filter**

<b>Description</b>	List of System filters
<b>Context</b>	<a href="#">acl system-filter</a>

<b>Tree</b>	<a href="#">system-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv4-filter

<b>Description</b>	List of System IPv4 filter rules
<b>Context</b>	<a href="#">acl system-filter ipv4-filter</a>
<b>Tree</b>	<a href="#">ipv4-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### clear

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl system-filter ipv4-filter clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### entry [sequence-id](#) *number*

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry <a href="#">sequence-id</a> <i>number</i></a>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### [sequence-id](#) *number*

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry <a href="#">sequence-id</a> <i>number</i></a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl system-filter ipv4-filter entry sequence-id number statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-filter**

<b>Description</b>	List of System IPv6 filter rules
<b>Context</b>	<a href="#">acl system-filter ipv6-filter</a>
<b>Tree</b>	<a href="#">ipv6-filter</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all statistics of all entries of the filter to zero
<b>Context</b>	<a href="#">acl system-filter ipv6-filter clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**entry sequence-id number**

<b>Description</b>	List of filter rules.
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id number</a>
<b>Tree</b>	<a href="#">entry</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **sequence-id *number***

<b>Description</b>	A number to indicate the relative evaluation order of the different entries; lower numbered entries are evaluated before higher numbered entries
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id <i>number</i></a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id <i>number</i> statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **clear**

<b>Description</b>	Reset all statistics associated with this particular entry to zero
<b>Context</b>	<a href="#">acl system-filter ipv6-filter entry sequence-id <i>number</i> statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **qos**

<b>Description</b>	Top level enclosing container for qos operational tools
<b>Context</b>	<a href="#">qos</a>
<b>Tree</b>	<a href="#">qos</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**classifiers**

<b>Description</b>	Top level enclosing container for qos classifiers operational tools
<b>Context</b>	<a href="#">qos classifiers</a>
<b>Tree</b>	<a href="#">classifiers</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**multifield**

<b>Description</b>	Top level enclosing container for qos multifield classifiers operational tools
<b>Context</b>	<a href="#">qos classifiers multifield</a>
<b>Tree</b>	<a href="#">multifield</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv4-policy** [name string](#)

<b>Description</b>	List of IPv4 policies
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string</a>
<b>Tree</b>	<a href="#">ipv4-policy</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the IPv4 policy.
<b>Context</b>	<a href="#">qos classifiers multifield ipv4-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-policy** [name string](#)

<b>Description</b>	List of IPv6 policies
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string</a>
<b>Tree</b>	<a href="#">ipv6-policy</a>

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<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Name of the IPv6 policy.
<b>Context</b>	<a href="#">qos classifiers multifield ipv6-policy name string</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



## 12 tools bfd

```
bfd
+ micro-bfd-sessions
+ lag-interface name string
  + member-interface name string
  + clear
+ statistics
  + lag-interface name string
  + member-interface name string
  + clear
+ peer local-discriminator number
+ clear
+ statistics
+ peer local-discriminator number
+ clear
```

## 12.1 bfd Descriptions

### **bfd**

<b>Description</b>	Top-level grouping for bfd operational commands
<b>Context</b>	<a href="#">bfd</a>
<b>Tree</b>	<a href="#">bfd</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **micro-bfd-sessions**

<b>Description</b>	Enter the micro-bfd-sessions context
<b>Context</b>	<a href="#">bfd micro-bfd-sessions</a>
<b>Tree</b>	<a href="#">micro-bfd-sessions</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **lag-interface** [name string](#)

<b>Description</b>	Lag interface against which the clear command is to be executed
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name string</a>
<b>Tree</b>	<a href="#">lag-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **name** [string](#)

<b>Description</b>	Reference ID for associated lag interface Example: lag1 (Reference Interface lag1).
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name string</a>
<b>String Length</b>	3 to 20

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### member-interface *name string*

<b>Description</b>	List of member-interfaces to be cleared
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name string member-interface name string</a>
<b>Tree</b>	<a href="#">member-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### name *string*

<b>Description</b>	Reference ID for associated interface Example: ethernet-2/1 (Reference Interface ethernet-2/1).
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name string member-interface name string</a>
<b>String Length</b>	3 to 20
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### clear

<b>Description</b>	Clear the associated micro-BFD sessions Clearing a micro-BFD sessions causes the associated sessions to transition to a Down state
<b>Context</b>	<a href="#">bfd micro-bfd-sessions lag-interface name string member-interface name string clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">bfd micro-bfd-sessions statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## lag-interface *name string*

<b>Description</b>	Lag interface against which the clear command is to be executed
<b>Context</b>	<a href="#">bfd micro-bfd-sessions statistics lag-interface name string</a>
<b>Tree</b>	<a href="#">lag-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## name *string*

<b>Description</b>	Reference ID for associated lag interface Example: lag1 (Reference Interface lag1).
<b>Context</b>	<a href="#">bfd micro-bfd-sessions statistics lag-interface name string</a>
<b>String Length</b>	3 to 20
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## member-interface *name string*

<b>Description</b>	List of member-interfaces to be cleared
<b>Context</b>	<a href="#">bfd micro-bfd-sessions statistics lag-interface name string member-interface name string</a>
<b>Tree</b>	<a href="#">member-interface</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **name** *string*

**Description** Reference ID for associated interface Example: ethernet-2/1 (Reference Interface ethernet-2/1).

**Context** [bfd micro-bfd-sessions statistics lag-interface name](#) *string* [member-interface name](#) *string*

**String Length** 3 to 20

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **clear**

**Description** Clear the BFD statistics associated with the micro-BFD sessions

**Context** [bfd micro-bfd-sessions statistics lag-interface name](#) *string* [member-interface name](#) *string* **clear**

**Tree** [clear](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### **peer local-discriminator** *number*

**Description** The list of local-discriminators associated with BFD

**Context** [bfd peer local-discriminator](#) *number*

**Tree** [peer](#)

**Configurable** True

**Platforms** Supported on all platforms

### **local-discriminator** *number*

**Description** BFD session local discriminator

**Context** [bfd peer local-discriminator](#) *number*

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Clear the associated BFD sessions Clearing a BFD sessions causes the associated BFD sessions ot transition to a Down state
<b>Context</b>	<a href="#">bfd peer local-discriminator</a> <i>number</i> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">bfd statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## peer [local-discriminator](#) *number*

<b>Description</b>	The list of local-discriminators associated with BFD
<b>Context</b>	<a href="#">bfd statistics</a> <a href="#">peer local-discriminator</a> <i>number</i>
<b>Tree</b>	<a href="#">peer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## local-discriminator *number*

<b>Description</b>	BFD session local discriminator
<b>Context</b>	<a href="#">bfd statistics</a> <a href="#">peer local-discriminator</a> <i>number</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Clear the BFD statistics associated with the BFD sessions
<b>Context</b>	<a href="#">bfd statistics peer local-discriminator</a> <i>number clear</i>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 13 tools interface

```

interface name string
+ ethernet
+   statistics
+     clear
+     include-members
+ qos
+   output
+     queue-statistics
+       clear
+       queue queue-name string
+       clear
+ resource
+ retry
+ statistics
+ clear
+   include-members
+ subinterface index number
+   bridge-table
+     mac-duplication
+       delete-all-macs
+       duplicate-entries
+         mac address string
+         delete-mac
+     mac-learning
+       delete-all-macs
+       learnt-entries
+         mac address string
+         delete-mac
+   ipv4
+     address ip-prefix string
+     arp
+       delete-dynamic
+       neighbor ipv4-address string
+         delete-dynamic
+       virtual-ipv4-discovery
+         address ipv4-address string
+         statistics
+           clear
+         statistics
+           clear
+     dhcp-relay
+       statistics
+       clear
+   ipv6
+     address ip-prefix string
+     dhcp-relay
+       statistics
+       clear
+     neighbor-discovery
+       delete-dynamic
+       neighbor ipv6-address string
+         delete-dynamic
+     virtual-ipv6-discovery
+       address ipv6-address string
+       statistics
+       clear

```



```
    + statistics
      + clear
+ qos
  + input
    + policer-templates
      + clear
      + policer index number
      + clear
  + output
+ statistics
+ clear
```

## 13.1 interface Descriptions

### interface *name string*

<b>Description</b>	The list of named interfaces on the device.
<b>Context</b>	<a href="#">interface name string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	References the configured name of the interface
<b>Context</b>	<a href="#">interface name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ethernet

<b>Description</b>	Enter the ethernet context
<b>Context</b>	<a href="#">interface name string ethernet</a>
<b>Tree</b>	<a href="#">ethernet</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name string ethernet statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Clear interface ethernet statistics
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## include-members

<b>Description</b>	Causes the member link ethernet statistics to also be cleared
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">ethernet statistics clear include-members</a>
<b>Tree</b>	<a href="#">include-members</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## qos

<b>Description</b>	Enter the qos context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos</a>
<b>Tree</b>	<a href="#">qos</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## output

<b>Description</b>	Enter the output context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">qos output</a>
<b>Tree</b>	<a href="#">output</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## queue-statistics

<b>Description</b>	Enter the queue-statistics context
--------------------	------------------------------------

<b>Context</b>	<a href="#">interface name</a> <i>string</i> qos output queue-statistics
<b>Tree</b>	<a href="#">queue-statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**clear**

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> qos output queue-statistics clear
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**queue** [queue-name](#) *string*

<b>Description</b>	List of queues
<b>Context</b>	<a href="#">interface name</a> <i>string</i> qos output queue-statistics queue <a href="#">queue-name</a> <i>string</i>
<b>Tree</b>	<a href="#">queue</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**queue-name** *string*

<b>Description</b>	The queue name
<b>Context</b>	<a href="#">interface name</a> <i>string</i> qos output queue-statistics queue <a href="#">queue-name</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

**clear**

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> qos output queue-statistics queue <a href="#">queue-name</a> <i>string</i> clear
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms except 7220 IXR-D1

## resource

<b>Description</b>	Enable the resource context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">resource</a>
<b>Tree</b>	<a href="#">resource</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## retry

<b>Description</b>	Causes the specified lag to be reevaluate for missing system resources
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">resource</a> <a href="#">retry</a>
<b>Tree</b>	<a href="#">retry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Clear interface statistics
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## include-members

<b>Description</b>	Causes the member link statistics to also be cleared
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">statistics clear</a> <a href="#">include-members</a>
<b>Tree</b>	<a href="#">include-members</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## subinterface *index number*

<b>Description</b>	The list of subinterfaces (logical interfaces) associated with a physical interface
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i>
<b>Tree</b>	<a href="#">subinterface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## *index number*

<b>Description</b>	The index of the subinterface, or logical interface number
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## bridge-table

<b>Description</b>	Enter the bridge-table context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## mac-duplication

<b>Description</b>	Enable the mac-duplication context
--------------------	------------------------------------

---

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a>
<b>Tree</b>	<a href="#">mac-duplication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### delete-all-macs

<b>Description</b>	Delete all learnt mac entries.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">delete-all-macs</a>
<b>Tree</b>	<a href="#">delete-all-macs</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### duplicate-entries

<b>Description</b>	Enter the duplicate-entries context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a>
<b>Tree</b>	<a href="#">duplicate-entries</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mac [address](#) *string*

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### address *string*

<b>Description</b>	Enter the address context
--------------------	---------------------------

<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## delete-mac

<b>Description</b>	delete the duplicate mac address.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">delete-mac</a>
<b>Tree</b>	<a href="#">delete-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## mac-learning

<b>Description</b>	Enable the mac-learning context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a>
<b>Tree</b>	<a href="#">mac-learning</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## delete-all-macs

<b>Description</b>	Delete all learnt mac entries.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">delete-all-macs</a>
<b>Tree</b>	<a href="#">delete-all-macs</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## learnt-entries

<b>Description</b>	Enter the learnt-entries context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a>
<b>Tree</b>	<a href="#">learnt-entries</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mac address *string*

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface <i>index number</i></a> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address <i>string</i></a>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### address *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface <i>index number</i></a> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address <i>string</i></a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### delete-mac

<b>Description</b>	delete the learnt mac address.
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface <i>index number</i></a> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address <i>string</i></a> <a href="#">delete-mac</a>
<b>Tree</b>	<a href="#">delete-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv4

<b>Description</b>	Enter the ipv4 context
<b>Context</b>	<a href="#">interface name <i>string</i></a> <a href="#">subinterface <i>index number</i></a> <a href="#">ipv4</a>
<b>Tree</b>	<a href="#">ipv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address** *ip-prefix string*

<b>Description</b>	Enter the address list instance
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 address ip-prefix string</a>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-prefix** *string*

<b>Description</b>	Enter the ip-prefix context
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 address ip-prefix string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**arp**

<b>Description</b>	Enable the arp context
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 arp</a>
<b>Tree</b>	<a href="#">arp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**delete-dynamic**

<b>Description</b>	Delete all dynamic ARP entries
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 arp delete-dynamic</a>
<b>Tree</b>	<a href="#">delete-dynamic</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**neighbor** *ipv4-address string*

<b>Description</b>	Enter the neighbor list instance
<b>Context</b>	<a href="#">interface name string subinterface index number ipv4 arp neighbor ipv4-address string</a>

<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### ipv4-address *string*

<b>Description</b>	IPv4 address resolved by the ARP entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp neighbor</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### delete-dynamic

<b>Description</b>	Delete one specific dynamic ARP entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp neighbor</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">delete-dynamic</a>
<b>Tree</b>	<a href="#">delete-dynamic</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### virtual-ipv4-discovery

<b>Description</b>	Enter the virtual-ipv4-discovery context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp virtual-ipv4-discovery</a>
<b>Tree</b>	<a href="#">virtual-ipv4-discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### address [ipv4-address](#) *string*

<b>Description</b>	The list of Virtual IP addresses
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4 arp virtual-ipv4-discovery</a> <a href="#">address</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### ipv4-address *string*

<b>Description</b>	The virtual IPv4 address.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <a href="#">ipv4 arp virtual-ipv4-discovery address</a> <a href="#">ipv4-address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <a href="#">ipv4 arp virtual-ipv4-discovery address</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

### clear

<b>Description</b>	Clears the statistics for the Virtual IP addresses
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index number</a> <a href="#">ipv4 arp virtual-ipv4-discovery address</a> <a href="#">ipv4-address</a> <i>string</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">arp</a> <a href="#">virtual-ipv4-discovery</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## clear

<b>Description</b>	Clears the global statistics for all the Virtual IP addresses
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">arp</a> <a href="#">virtual-ipv4-discovery</a> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## dhcp-relay

<b>Description</b>	Enable the dhcp-relay context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">dhcp-relay</a>
<b>Tree</b>	<a href="#">dhcp-relay</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">dhcp-relay</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv4</a> <a href="#">dhcp-relay</a> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ipv6

<b>Description</b>	Enter the ipv6 context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a>
<b>Tree</b>	<a href="#">ipv6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## address [ip-prefix](#) *string*

<b>Description</b>	Enter the address list instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">address</a> <a href="#">ip-prefix</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## [ip-prefix](#) *string*

<b>Description</b>	Enter the ip-prefix context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">address</a> <a href="#">ip-prefix</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dhcp-relay

<b>Description</b>	Enable the dhcp-relay context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-relay</a>
<b>Tree</b>	<a href="#">dhcp-relay</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-relay</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">ipv6</a> <a href="#">dhcp-relay</a> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## neighbor-discovery

<b>Description</b>	Enable the neighbor-discovery context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">ipv6</a> <a href="#">neighbor-discovery</a>
<b>Tree</b>	<a href="#">neighbor-discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## delete-dynamic

<b>Description</b>	Delete all dynamic neighbor cache entries
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <a href="#">index</a> <i>number</i> <a href="#">ipv6</a> <a href="#">neighbor-discovery</a> <a href="#">delete-dynamic</a>
<b>Tree</b>	<a href="#">delete-dynamic</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**neighbor ipv6-address** *string*

<b>Description</b>	Enter the neighbor list instance
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ipv6-address** *string*

<b>Description</b>	IPv6 address resolved by the ND cache entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**delete-dynamic**

<b>Description</b>	Delete one specific dynamic neighbor cache entry
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery neighbor ipv6-address</a> <i>string</i> <a href="#">delete-dynamic</a>
<b>Tree</b>	<a href="#">delete-dynamic</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**virtual-ipv6-discovery**

<b>Description</b>	Enter the virtual-ipv6-discovery context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface index</a> <i>number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery</a>
<b>Tree</b>	<a href="#">virtual-ipv6-discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6



**address** [ipv6-address](#) *string*

<b>Description</b>	The list of Virtual IP addresses
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Tree</b>	<a href="#">address</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**ipv6-address** *string*

<b>Description</b>	The virtual IPv6 address.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

**clear**

<b>Description</b>	Clears the statistics for the Virtual IP addresses
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index number</i> <a href="#">ipv6 neighbor-discovery virtual-ipv6-discovery address</a> <a href="#">ipv6-address</a> <i>string</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## statistics

**Description** Enter the statistics context

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [ipv6 neighbor-discovery virtual-ipv6-discovery statistics](#)

**Tree** [statistics](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## clear

**Description** Clears the global statistics for all the Virtual IP addresses

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [ipv6 neighbor-discovery virtual-ipv6-discovery statistics clear](#)

**Tree** [clear](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7220 IXR-H4, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7250 IXR-10, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-H2, 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-H3, 7250 IXR-6

## qos

**Description** Enter the qos context

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [qos](#)

**Tree** [qos](#)

**Configurable** True

**Platforms** Supported on all platforms

## input

**Description** Enter the input context

**Context** [interface name](#) *string* [subinterface](#) *index* *number* [qos input](#)

<b>Tree</b>	<a href="#">input</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## policer-templates

<b>Description</b>	Enter the policer-templates context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">policer-templates</a>
<b>Tree</b>	<a href="#">policer-templates</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">policer-templates</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## policer *index* *number*

<b>Description</b>	The list of policer instances belonging to the template definition.
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">policer-templates</a> <a href="#">policer</a> <i>index</i> <i>number</i>
<b>Tree</b>	<a href="#">policer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## *index* *number*

<b>Description</b>	The policer index
<b>Context</b>	<a href="#">interface name</a> <i>string</i> <a href="#">subinterface</a> <i>index</i> <i>number</i> <a href="#">qos</a> <a href="#">input</a> <a href="#">policer-templates</a> <a href="#">policer</a> <i>index</i> <i>number</i>
<b>Range</b>	1 to 32
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## clear

**Description** Enter the clear context

**Context** [interface name](#) *string* [subinterface](#) [index](#) *number* [qos](#) [input](#) [policer-templates](#) [policer](#) [index](#) *number* [clear](#)

**Tree** [clear](#)

**Configurable** True

**Platforms** Supported on all platforms

## output

**Description** Enter the output context

**Context** [interface name](#) *string* [subinterface](#) [index](#) *number* [qos](#) [output](#)

**Tree** [output](#)

**Configurable** True

**Platforms** Supported on all platforms

## statistics

**Description** Enter the statistics context

**Context** [interface name](#) *string* [subinterface](#) [index](#) *number* [statistics](#)

**Tree** [statistics](#)

**Configurable** True

**Platforms** Supported on all platforms

## clear

**Description** Enter the clear context

**Context** [interface name](#) *string* [subinterface](#) [index](#) *number* [statistics](#) [clear](#)

**Tree** [clear](#)

**Configurable** True

**Platforms** Supported on all platforms

## 14 tools network-instance

```

network-instance name string
+ bridge-table
+ mac-duplication
+ delete-macs-type keyword
+ duplicate-entries
+ mac address string
+ delete-mac
+ mac-learning
+ delete-all-macs
+ learnt-entries
+ mac address string
+ delete-mac
+ proxy-arp
+ duplicate
+ delete-all
+ entry address string
+ delete-ip
+ dynamic
+ delete-all
+ entry address string
+ delete-ip
+ proxy-nd
+ duplicate
+ delete-all
+ entry address string
+ delete-ip
+ dynamic
+ delete-all
+ entry address string
+ delete-ip
+ icmp
+ statistics
+ clear
+ icmp6
+ statistics
+ clear
+ protocols
+ bgp
+ group group-name string
+ reset-peer
+ peer-as number
+ soft-clear
+ peer-as number
+ route-refresh keyword
+ neighbor peer-address (ipv4-address-with-zone | ipv6-address-with-zone)
+ reset-peer
+ soft-clear
+ route-refresh keyword
+ reset-peer
+ peer-as number
+ soft-clear
+ peer-as number
+ route-refresh keyword
+ isis
+ instance name string
+ interface interface-name string

```

```
+   + adjacencies
+   +   + clear
+ ldp-synchronization
+ exit
+ link-state-database
+   + clear
+ statistics
+   + clear
+ ldp
+   + discovery
+   +   + interfaces
+   +     + interface name string
+   +       + ipv4
+   +         + statistics
+   +           + clear
+   + peers
+   +   + peer lsr-id string label-space-id number
+   +     + reset
+   +     + statistics
+   +     + clear
+   + reset-overload
+   + statistics
+   + clear
+ ospf
+   + instance name string
+   +   + area area-id
+   +     + interface interface-name string
+   +       + neighbors
+   +         + clear
+   +   + ldp-synchronization
+   +     + exit
+   +   + link-state-database
+   +     + clear
+   +   + manual-spf
+   +     + run
+   +   + neighbors
+   +     + clear
+   +     + neighbor neighbor-id
+   +       + clear
+   + overload
+   + clear
+   + statistics
+   + clear
```

## 14.1 network-instance Descriptions

### network-instance *name string*

<b>Description</b>	Enter the network-instance list instance
<b>Context</b>	<a href="#">network-instance name string</a>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### name *string*

<b>Description</b>	A unique name identifying the network instance
<b>Context</b>	<a href="#">network-instance name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### bridge-table

<b>Description</b>	bridge-table
<b>Context</b>	<a href="#">network-instance name string bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### mac-duplication

<b>Description</b>	Enable the mac-duplication context
<b>Context</b>	<a href="#">network-instance name string bridge-table mac-duplication</a>
<b>Tree</b>	<a href="#">mac-duplication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**delete-macs-type** *keyword*

<b>Description</b>	Type of duplicate mac entries to delete.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">delete-macs-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">delete-macs-type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• all</li> <li>• blackhole-only</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**duplicate-entries**

<b>Description</b>	Enter the duplicate-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a>
<b>Tree</b>	<a href="#">duplicate-entries</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac** [address](#) *string*

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**address** *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**delete-mac**

<b>Description</b>	delete the duplicate mac address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-duplication</a> <a href="#">duplicate-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">delete-mac</a>
<b>Tree</b>	<a href="#">delete-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac-learning**

<b>Description</b>	Enable the mac-learning context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a>
<b>Tree</b>	<a href="#">mac-learning</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**delete-all-macs**

<b>Description</b>	Delete all learnt mac entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">delete-all-macs</a>
<b>Tree</b>	<a href="#">delete-all-macs</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**learnt-entries**

<b>Description</b>	Enter the learnt-entries context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a>
<b>Tree</b>	<a href="#">learnt-entries</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**mac [address](#) *string***

<b>Description</b>	macs learnt on the bridging instance
--------------------	--------------------------------------

<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **address** *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **delete-mac**

<b>Description</b>	delete the learnt mac address.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">mac-learning</a> <a href="#">learnt-entries</a> <a href="#">mac address</a> <i>string</i> <a href="#">delete-mac</a>
<b>Tree</b>	<a href="#">delete-mac</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **proxy-arp**

<b>Description</b>	Enable the proxy-arp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a>
<b>Tree</b>	<a href="#">proxy-arp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **duplicate**

<b>Description</b>	Enable the duplicate context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate</a>
<b>Tree</b>	<a href="#">duplicate</a>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-all

<b>Description</b>	Delete all entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate</a> <a href="#">delete-all</a>
<b>Tree</b>	<a href="#">delete-all</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## entry [address](#) *string*

<b>Description</b>	proxy-arp entry to delete
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate</a> <a href="#">entry</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## [address](#) *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate</a> <a href="#">entry</a> <a href="#">address</a> <i>string</i>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-ip

<b>Description</b>	delete the proxy entry.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">duplicate</a> <a href="#">entry</a> <a href="#">address</a> <i>string</i> <a href="#">delete-ip</a>
<b>Tree</b>	<a href="#">delete-ip</a>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## dynamic

<b>Description</b>	Enable the dynamic context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic</a>
<b>Tree</b>	<a href="#">dynamic</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-all

<b>Description</b>	Delete all entries.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic</a> <a href="#">delete-all</a>
<b>Tree</b>	<a href="#">delete-all</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## entry [address](#) *string*

<b>Description</b>	proxy-arp entry to delete
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic</a> <a href="#">entry</a> <a href="#">address</a> <i>string</i>
<b>Tree</b>	<a href="#">entry</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## [address](#) *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">bridge-table</a> <a href="#">proxy-arp</a> <a href="#">dynamic</a> <a href="#">entry</a> <a href="#">address</a> <i>string</i>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-ip

**Description** delete the proxy entry.

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-arp](#) [dynamic](#) [entry](#) [address](#) *string* [delete-ip](#)

**Tree** [delete-ip](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## proxy-nd

**Description** Enable the proxy-nd context

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#)

**Tree** [proxy-nd](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## duplicate

**Description** Enable the duplicate context

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [duplicate](#)

**Tree** [duplicate](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-all

**Description** Delete all entries.

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [duplicate](#) [delete-all](#)

**Tree** [delete-all](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### entry *address string*

**Description** proxy-nd entry to delete

**Context** [network-instance name string bridge-table proxy-nd duplicate entry address string](#)

**Tree** [entry](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### address *string*

**Description** Enter the address context

**Context** [network-instance name string bridge-table proxy-nd duplicate entry address string](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### delete-ip

**Description** delete the proxy entry.

**Context** [network-instance name string bridge-table proxy-nd duplicate entry address string delete-ip](#)

**Tree** [delete-ip](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### dynamic

**Description** Enable the dynamic context

**Context** [network-instance name string bridge-table proxy-nd dynamic](#)

**Tree** [dynamic](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-all

**Description** Delete all entries.

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic](#) [delete-all](#)

**Tree** [delete-all](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## entry [address](#) *string*

**Description** proxy-nd entry to delete

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic](#) [entry](#) [address](#) *string*

**Tree** [entry](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## address *string*

**Description** Enter the address context

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic](#) [entry](#) [address](#) *string*

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## delete-ip

**Description** delete the proxy entry.

**Context** [network-instance name](#) *string* [bridge-table](#) [proxy-nd](#) [dynamic](#) [entry](#) [address](#) *string* [delete-ip](#)

**Tree** [delete-ip](#)

**Configurable** True

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<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
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## icmp

<b>Description</b>	Enter the icmp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp</a>
<b>Tree</b>	<a href="#">icmp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	ICMP version 4 statistics
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Resets all the YANG state counters under <a href="#">network-instance/icmp/statistics</a> to zero
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp</a> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## icmp6

<b>Description</b>	Enter the icmp6 context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6</a>
<b>Tree</b>	<a href="#">icmp6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**statistics**

<b>Description</b>	ICMP version 6 statistics
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Resets all the YANG state counters under network-instance/icmp6/statistics to zero
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">icmp6 statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**protocols**

<b>Description</b>	The routing protocols that are enabled for this network-instance.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a>
<b>Tree</b>	<a href="#">protocols</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**bgp**

<b>Description</b>	Enable the bgp context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp</a>
<b>Tree</b>	<a href="#">bgp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**group** [group-name](#) *string*

<b>Description</b>	Enter the group list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group</a> <a href="#">group-name</a> <i>string</i>

<b>Tree</b>	<a href="#">group</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**group-name** *string*

<b>Description</b>	The configured name of the peer group
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**reset-peer**

<b>Description</b>	Enable the reset-peer context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">reset-peer</a>
<b>Tree</b>	<a href="#">reset-peer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**peer-as** *number*

<b>Description</b>	Hard reset only BGP peers in the peer-group that have the specified peer-AS number, whether they are configured peers or dynamic peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">reset-peer peer-as</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**soft-clear**

<b>Description</b>	Enable the soft-clear context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">soft-clear</a>

<b>Tree</b>	<a href="#">soft-clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**peer-as** *number*

<b>Description</b>	Soft reset only BGP peers in the peer-group that have the specified peer-AS number, whether they are configured peers or dynamic peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">soft-clear peer-as</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**route-refresh** *keyword*

<b>Description</b>	The address family to refresh  This is encoded in the ROUTE_REFRESH message. By default all families are refreshed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp group group-name</a> <i>string</i> <a href="#">soft-clear route-refresh</a> <i>keyword</i>
<b>Tree</b>	<a href="#">route-refresh</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv4-unicast</a></li> <li>• <a href="#">ipv6-unicast</a></li> <li>• <a href="#">evpn</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**neighbor** [peer-address](#) (*ipv4-address-with-zone* | *ipv6-address-with-zone*)

<b>Description</b>	Enter the neighbor list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone</i>   <i>ipv6-address-with-zone</i> )
<b>Tree</b>	<a href="#">neighbor</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**peer-address** (*ipv4-address-with-zone | ipv6-address-with-zone*)

<b>Description</b>	The transport address of the BGP peer The peer-address must be a valid IPv4 unicast address or a valid IPv6 global unicast address. Sessions to a link-local IPv6 address are not supported.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**reset-peer**

<b>Description</b>	Hard reset the peer
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">reset-peer</a>
<b>Tree</b>	<a href="#">reset-peer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**soft-clear**

<b>Description</b>	Enable the soft-clear context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">soft-clear</a>
<b>Tree</b>	<a href="#">soft-clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**route-refresh** *keyword*

<b>Description</b>	The address family to refresh This is encoded in the ROUTE_REFRESH message. By default all families are refreshed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp neighbor peer-address</a> ( <i>ipv4-address-with-zone   ipv6-address-with-zone</i> ) <a href="#">soft-clear route-refresh</a> <i>keyword</i>
<b>Tree</b>	<a href="#">route-refresh</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>ipv4-unicast</code></li> </ul>

	<ul style="list-style-type: none"> <li>• ipv6-unicast</li> <li>• evpn</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## reset-peer

<b>Description</b>	Enable the reset-peer context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp reset-peer</a>
<b>Tree</b>	<a href="#">reset-peer</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## peer-as *number*

<b>Description</b>	Hard reset only BGP peers that have the specified peer-AS number, whether they are configured peers or dynamic peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp reset-peer peer-as</a> <i>number</i>
<b>Tree</b>	<a href="#">peer-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## soft-clear

<b>Description</b>	Enable the soft-clear context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp soft-clear</a>
<b>Tree</b>	<a href="#">soft-clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## peer-as *number*

<b>Description</b>	Soft reset only BGP peers that have the specified peer-AS number, whether they are configured peers or dynamic peers
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols bgp soft-clear peer-as</a> <i>number</i>

<b>Tree</b>	<a href="#">peer-as</a>
<b>Range</b>	1 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **route-refresh** *keyword*

<b>Description</b>	The address family to refresh This is encoded in the ROUTE_REFRESH message. By default all families are refreshed.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">bgp</a> <a href="#">soft-clear</a> <a href="#">route-refresh</a> <i>keyword</i>
<b>Tree</b>	<a href="#">route-refresh</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• <a href="#">ipv4-unicast</a></li> <li>• <a href="#">ipv6-unicast</a></li> <li>• <a href="#">evpn</a></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **isis**

<b>Description</b>	Enable the isis context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">isis</a>
<b>Tree</b>	<a href="#">isis</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **instance** [name](#) *string*

<b>Description</b>	List of IS-IS protocol instances associated with this network-instance. Only a single instance is supported for now
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols</a> <a href="#">isis</a> <a href="#">instance name</a> <i>string</i>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**name** *string*

<b>Description</b>	The name of the IS-IS instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface** [interface-name](#) *string*

<b>Description</b>	List of IS-IS interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface-name** *string*

<b>Description</b>	Reference to a specific subinterface of the form <interface-name>.<subinterface-index>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**adjacencies**

<b>Description</b>	Enter the adjacencies context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols isis instance name</a> <i>string</i> <a href="#">interface interface-name</a> <i>string</i> <a href="#">adjacencies</a>
<b>Tree</b>	<a href="#">adjacencies</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Reset all of the adjacencies on this interface
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string interface interface-name string adjacencies clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ldp-synchronization

<b>Description</b>	IS-IS LDP-IGP synchronisation
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string ldp-synchronization</a>
<b>Tree</b>	<a href="#">ldp-synchronization</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## exit

<b>Description</b>	Advertise the normal metric for all IS-IS interfaces, even if some are configured for LDP synchronization and ISIS is not in sync with LDP on these interfaces
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string ldp-synchronization exit</a>
<b>Tree</b>	<a href="#">exit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## link-state-database

<b>Description</b>	The ISIS link state database
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string link-state-database</a>
<b>Tree</b>	<a href="#">link-state-database</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**clear**

<b>Description</b>	Clear the contents of the LSDB.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string link-state-database clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all of the IS-IS instance statistics to zero.
<b>Context</b>	<a href="#">network-instance name string protocols isis instance name string statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ldp**

<b>Description</b>	Operational tools commands for LDP.
<b>Context</b>	<a href="#">network-instance name string protocols ldp</a>
<b>Tree</b>	<a href="#">ldp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**discovery**

<b>Description</b>	Enter the discovery context
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<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> protocols ldp discovery
<b>Tree</b>	<a href="#">discovery</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## interfaces

<b>Description</b>	Enter the interfaces context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> protocols ldp discovery <a href="#">interfaces</a>
<b>Tree</b>	<a href="#">interfaces</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## interface [name](#) *string*

<b>Description</b>	Enter the interface list instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> protocols ldp discovery <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## [name](#) *string*

<b>Description</b>	Reference type to a specific subinterface of the form <interface-name>.<subinterface-index>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> protocols ldp discovery <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## ipv4

<b>Description</b>	Enter the ipv4 context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> protocols ldp discovery <a href="#">interfaces</a> <a href="#">interface name</a> <i>string</i> <a href="#">ipv4</a>

<b>Tree</b>	<a href="#">ipv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## clear

<b>Description</b>	Resets all the LDP instance state counters to zero
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp discovery interfaces interface name</a> <i>string</i> <a href="#">ipv4 statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## peers

<b>Description</b>	Enter the peers context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers</a>
<b>Tree</b>	<a href="#">peers</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## peer [lsr-id](#) *string* [label-space-id](#) *number*

<b>Description</b>	List of peers.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ldp peers peer</a> <a href="#">lsr-id</a> <i>string</i> <a href="#">label-space-id</a> <i>number</i>
<b>Tree</b>	<a href="#">peer</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### Isr-id *string*

**Description** The LSR ID of the peer, to identify the globally unique LSR. This is the first four octets of the LDP ID. This leaf is used together with the leaf 'label-space-id' to form the LDP ID.

**Context** [network-instance name](#) *string* [protocols ldp peers peer](#) [lsr-id](#) *string* [label-space-id](#) *number*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### label-space-id *number*

**Description** The Label Space ID of the peer, to identify a specific label space within the LSR. This is the last two octets of the LDP ID. This leaf is used together with the leaf 'lsr-id' to form the LDP ID.

**Context** [network-instance name](#) *string* [protocols ldp peers peer](#) [lsr-id](#) *string* [label-space-id](#) *number*

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### reset

**Description** Reset the LDP session by closing the TCP connection and establishing a new one.

**Context** [network-instance name](#) *string* [protocols ldp peers peer](#) [lsr-id](#) *string* [label-space-id](#) *number* [reset](#)

**Tree** [reset](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### statistics

**Description** Enter the statistics context

**Context** [network-instance name](#) *string* [protocols ldp peers peer](#) [lsr-id](#) *string* [label-space-id](#) *number* [statistics](#)

**Tree** [statistics](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## clear

**Description** Resets all the LDP instance state counters to zero

**Context** [network-instance name](#) *string* [protocols ldp peers peer lsr-id](#) *string* [label-space-id](#) *number* [statistics clear](#)

**Tree** [clear](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## reset-overload

**Description** Enable the reset-overload context

**Context** [network-instance name](#) *string* [protocols ldp reset-overload](#)

**Tree** [reset-overload](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## statistics

**Description** Enter the statistics context

**Context** [network-instance name](#) *string* [protocols ldp statistics](#)

**Tree** [statistics](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## clear

**Description** Resets all the LDP instance state counters to zero

**Context** [network-instance name](#) *string* [protocols ldp statistics clear](#)

**Tree** [clear](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**ospf**

<b>Description</b>	Enable the ospf context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf</a>
<b>Tree</b>	<a href="#">ospf</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**instance** [name](#) *string*

<b>Description</b>	List of OSPF protocol instances associated with this network-instance. Only a single instance is supported for now
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	1

**name** *string*

<b>Description</b>	The name of the OSPF instance
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**area** [area-id](#)

<b>Description</b>	List of OSPF area
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a>
<b>Tree</b>	<a href="#">area</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**area-id**

<b>Description</b>	Enter the area-id context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface** [interface-name](#) *string*

<b>Description</b>	List of OSPF interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**interface-name** *string*

<b>Description</b>	Reference to a specific subinterface of the form <interface-name>.<subinterface-index>
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i>
<b>String Length</b>	5 to 25
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**neighbors**

<b>Description</b>	Enter the neighbors context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbors</a>
<b>Tree</b>	<a href="#">neighbors</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Reset all of the adjacencies on this interface
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">area area-id interface interface-name</a> <i>string</i> <a href="#">neighbors clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## ldp-synchronization

<b>Description</b>	Enter the ldp-synchronization context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">ldp-synchronization</a>
<b>Tree</b>	<a href="#">ldp-synchronization</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## exit

<b>Description</b>	Advertise the normal metric for all OSPF interfaces, even if some are configured for LDP synchronization and OSPF is not in sync with LDP on these interfaces
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">ldp-synchronization exit</a>
<b>Tree</b>	<a href="#">exit</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## link-state-database

<b>Description</b>	The OSPF link state database
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">link-state-database</a>
<b>Tree</b>	<a href="#">link-state-database</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



**clear**

<b>Description</b>	Clear the contents of the LSDB.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">link-state-database clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**manual-spf**

<b>Description</b>	Enter the manual-spf context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">manual-spf</a>
<b>Tree</b>	<a href="#">manual-spf</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**run**

<b>Description</b>	Run a SPF calculation.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">manual-spf run</a>
<b>Tree</b>	<a href="#">run</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**neighbors**

<b>Description</b>	Container for OSPF neighbors tools
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">neighbors</a>
<b>Tree</b>	<a href="#">neighbors</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Clear all OSPF neighbors
--------------------	--------------------------

---

<b>Context</b>	<code>network-instance name string protocols ospf instance name string neighbors clear</code>
<b>Tree</b>	<code>clear</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### neighbor neighbor-id

<b>Description</b>	Enter the neighbor list instance
<b>Context</b>	<code>network-instance name string protocols ospf instance name string neighbors neighbor neighbor-id</code>
<b>Tree</b>	<code>neighbor</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### neighbor-id

<b>Description</b>	The neighbor's ip-address in case of OSPFv2, the router-id otherwise
<b>Context</b>	<code>network-instance name string protocols ospf instance name string neighbors neighbor neighbor-id</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### clear

<b>Description</b>	Reset this neighbor in the OSPF instance
<b>Context</b>	<code>network-instance name string protocols ospf instance name string neighbors neighbor neighbor-id clear</code>
<b>Tree</b>	<code>clear</code>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### overload

<b>Description</b>	Enter the overload context
<b>Context</b>	<code>network-instance name string protocols ospf instance name string overload</code>
<b>Tree</b>	<code>overload</code>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset OSPF instance overload status.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">overload clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Reset all of the OSPF instance statistics to zero.
<b>Context</b>	<a href="#">network-instance name</a> <i>string</i> <a href="#">protocols ospf instance name</a> <i>string</i> <a href="#">statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 15 tools platform

```
platform
+ chassis
  + reboot
    + cancel
    + delay number
    + force
    + message string
    + warm
      + force
      + validate
  + control slot string
    + locator
      + disable
      + enable
        + duration number
    + reboot
      + cancel
      + delay number
      + force
      + message string
  + fabric slot number
    + locator
      + disable
      + enable
        + duration number
    + reboot
      + cancel
      + delay number
      + message string
  + fan-tray id number
    + locator
      + disable
      + enable
        + duration number
  + linecard slot number
    + locator
      + disable
      + enable
        + duration number
    + reboot
      + cancel
      + delay number
      + message string
  + redundancy
    + switchover
    + synchronize
      + overlay
      + system
  + show-fabric-bandwidth
```

## 15.1 platform Descriptions

### platform

<b>Description</b>	Top-level container for platform operational commands
<b>Context</b>	<a href="#">platform</a>
<b>Tree</b>	<a href="#">platform</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### chassis

<b>Description</b>	Operational commands related to the chassis
<b>Context</b>	<a href="#">platform chassis</a>
<b>Tree</b>	<a href="#">chassis</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### reboot

<b>Description</b>	Trigger a reboot of the chassis
<b>Context</b>	<a href="#">platform chassis reboot</a>
<b>Tree</b>	<a href="#">reboot</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### cancel

<b>Description</b>	Cancels a pending reboot on this component
<b>Context</b>	<a href="#">platform chassis reboot cancel</a>
<b>Tree</b>	<a href="#">cancel</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**delay number**

<b>Description</b>	The amount of time to delay the reboot During this period, the reboot can be cancelled.
<b>Context</b>	<a href="#">platform chassis reboot delay number</a>
<b>Tree</b>	<a href="#">delay</a>
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**force**

<b>Description</b>	Force a reboot of this component, overriding any synchronizations or other activities in progress  This option can be dangerous, and may result in a module booting on an older image if used after an image change
<b>Context</b>	<a href="#">platform chassis reboot force</a>
<b>Tree</b>	<a href="#">force</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**message string**

<b>Description</b>	A user-defined message to broadcast to other users of the system
<b>Context</b>	<a href="#">platform chassis reboot message string</a>
<b>Tree</b>	<a href="#">message</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**warm**

<b>Description</b>	Perform a warm reboot of the system  This option will perform checks against the current configuration, before prompting to confirm the reboot, and then rebooting the system without impacting the datapath - if a new image has been configured, this will upgrade the system.
<b>Context</b>	<a href="#">platform chassis reboot warm</a>
<b>Tree</b>	<a href="#">warm</a>

<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

## force

<b>Description</b>	Force a warm reboot of the system, overriding any validation, synchronizations or other activities in progress  This option can be dangerous, and may result in an outage - but can be used to support a fast reboot of the system.
<b>Context</b>	<a href="#">platform chassis reboot warm force</a>
<b>Tree</b>	<a href="#">force</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

## validate

<b>Description</b>	Validate that the system's current configuration and state supports a warm reboot operation
<b>Context</b>	<a href="#">platform chassis reboot warm validate</a>
<b>Tree</b>	<a href="#">validate</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

## control *slot string*

<b>Description</b>	Operational commands related to control modules
<b>Context</b>	<a href="#">platform control slot string</a>
<b>Tree</b>	<a href="#">control</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## slot *string*

<b>Description</b>	Slot identifier for the control module
<b>Context</b>	<a href="#">platform control slot string</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## locator

**Description** Operational commands for the locator LED

**Context** [platform control slot](#) *string* [locator](#)

**Tree** [locator](#)

**Configurable** True

**Platforms** Supported on all platforms

## disable

**Description** Deactivates the locator LED for this component

**Context** [platform control slot](#) *string* [locator](#) [disable](#)

**Tree** [disable](#)

**Configurable** True

**Platforms** Supported on all platforms

## enable

**Description** Activate the locator LED for this component

**Context** [platform control slot](#) *string* [locator](#) [enable](#)

**Tree** [enable](#)

**Configurable** True

**Platforms** Supported on all platforms

## duration *number*

**Description** Sets the duration to activate the locator LED, after which it will disable automatically

**Context** [platform control slot](#) *string* [locator](#) [enable](#) [duration](#) *number*

**Tree** [duration](#)

**Range** 10 to 3600

**Units** seconds

**Configurable** True

**Platforms** Supported on all platforms



**reboot**

<b>Description</b>	Trigger or a reboot of this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">reboot</a>
<b>Tree</b>	<a href="#">reboot</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**cancel**

<b>Description</b>	Cancels a pending reboot on this component
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">reboot</a> <a href="#">cancel</a>
<b>Tree</b>	<a href="#">cancel</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**delay** *number*

<b>Description</b>	The amount of time to delay the reboot During this period, the reboot can be cancelled.
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">reboot</a> <a href="#">delay</a> <i>number</i>
<b>Tree</b>	<a href="#">delay</a>
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**force**

<b>Description</b>	Force a reboot of this component, overriding any synchronizations or other activities in progress  This option can be dangerous, and may result in a module booting on an older image if used after an image change
<b>Context</b>	<a href="#">platform control slot</a> <i>string</i> <a href="#">reboot</a> <a href="#">force</a>
<b>Tree</b>	<a href="#">force</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**message string**

<b>Description</b>	A user-defined message to broadcast to other users of the system
<b>Context</b>	<a href="#">platform control slot string reboot message string</a>
<b>Tree</b>	<a href="#">message</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**fabric slot number**

<b>Description</b>	Operational commands related to fabric modules
<b>Context</b>	<a href="#">platform fabric slot number</a>
<b>Tree</b>	<a href="#">fabric</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**slot number**

<b>Description</b>	Numeric identifier for the fabric module
<b>Context</b>	<a href="#">platform fabric slot number</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**locator**

<b>Description</b>	Operational commands for the locator LED
<b>Context</b>	<a href="#">platform fabric slot number locator</a>
<b>Tree</b>	<a href="#">locator</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**disable**

<b>Description</b>	Deactivates the locator LED for this component
<b>Context</b>	<a href="#">platform fabric slot number locator disable</a>
<b>Tree</b>	<a href="#">disable</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## enable

<b>Description</b>	Activate the locator LED for this component
<b>Context</b>	<a href="#">platform fabric slot number locator enable</a>
<b>Tree</b>	<a href="#">enable</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## duration *number*

<b>Description</b>	Sets the duration to activate the locator LED, after which it will disable automatically
<b>Context</b>	<a href="#">platform fabric slot number locator enable duration number</a>
<b>Tree</b>	<a href="#">duration</a>
<b>Range</b>	10 to 3600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## reboot

<b>Description</b>	Trigger or a reboot of this component
<b>Context</b>	<a href="#">platform fabric slot number reboot</a>
<b>Tree</b>	<a href="#">reboot</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## cancel

<b>Description</b>	Cancels a pending reboot on this component
<b>Context</b>	<a href="#">platform fabric slot number reboot cancel</a>
<b>Tree</b>	<a href="#">cancel</a>
<b>Configurable</b>	True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **delay** *number*

**Description** The amount of time to delay the reboot  
During this period, the reboot can be cancelled.

**Context** [platform fabric slot number reboot delay number](#)

**Tree** [delay](#)

**Units** seconds

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **message** *string*

**Description** A user-defined message to broadcast to other users of the system

**Context** [platform fabric slot number reboot message string](#)

**Tree** [message](#)

**Configurable** True

**Platforms** 7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **fan-tray id** *number*

**Description** Operational commands related to fan modules

**Context** [platform fan-tray id number](#)

**Tree** [fan-tray](#)

**Configurable** True

**Platforms** Supported on all platforms

### **id** *number*

**Description** Numeric identifier for the fan module

**Context** [platform fan-tray id number](#)

**Configurable** True

**Platforms** Supported on all platforms

**locator**

<b>Description</b>	Operational commands for the locator LED
<b>Context</b>	<a href="#">platform fan-tray id number locator</a>
<b>Tree</b>	<a href="#">locator</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**disable**

<b>Description</b>	Deactivates the locator LED for this component
<b>Context</b>	<a href="#">platform fan-tray id number locator disable</a>
<b>Tree</b>	<a href="#">disable</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**enable**

<b>Description</b>	Activate the locator LED for this component
<b>Context</b>	<a href="#">platform fan-tray id number locator enable</a>
<b>Tree</b>	<a href="#">enable</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**duration *number***

<b>Description</b>	Sets the duration to activate the locator LED, after which it will disable automatically
<b>Context</b>	<a href="#">platform fan-tray id number locator enable duration number</a>
<b>Tree</b>	<a href="#">duration</a>
<b>Range</b>	10 to 3600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## linecard slot number

<b>Description</b>	Operational commands related to line cards
<b>Context</b>	<a href="#">platform linecard slot number</a>
<b>Tree</b>	<a href="#">linecard</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## slot number

<b>Description</b>	Numeric identifier for the line card
<b>Context</b>	<a href="#">platform linecard slot number</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## locator

<b>Description</b>	Operational commands for the locator LED
<b>Context</b>	<a href="#">platform linecard slot number locator</a>
<b>Tree</b>	<a href="#">locator</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## disable

<b>Description</b>	Deactivates the locator LED for this component
<b>Context</b>	<a href="#">platform linecard slot number locator disable</a>
<b>Tree</b>	<a href="#">disable</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## enable

<b>Description</b>	Activate the locator LED for this component
<b>Context</b>	<a href="#">platform linecard slot number locator enable</a>
<b>Tree</b>	<a href="#">enable</a>

<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **duration** *number*

<b>Description</b>	Sets the duration to activate the locator LED, after which it will disable automatically
<b>Context</b>	<a href="#">platform linecard slot number locator enable duration number</a>
<b>Tree</b>	<a href="#">duration</a>
<b>Range</b>	10 to 3600
<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **reboot**

<b>Description</b>	Trigger or a reboot of this component
<b>Context</b>	<a href="#">platform linecard slot number reboot</a>
<b>Tree</b>	<a href="#">reboot</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **cancel**

<b>Description</b>	Cancels a pending reboot on this component
<b>Context</b>	<a href="#">platform linecard slot number reboot cancel</a>
<b>Tree</b>	<a href="#">cancel</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **delay** *number*

<b>Description</b>	The amount of time to delay the reboot During this period, the reboot can be cancelled.
<b>Context</b>	<a href="#">platform linecard slot number reboot delay number</a>
<b>Tree</b>	<a href="#">delay</a>

<b>Units</b>	seconds
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### message *string*

<b>Description</b>	A user-defined message to broadcast to other users of the system
<b>Context</b>	<a href="#">platform linecard slot number reboot message string</a>
<b>Tree</b>	<a href="#">message</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### redundancy

<b>Description</b>	Top-level container for redundancy operational commands
<b>Context</b>	<a href="#">platform redundancy</a>
<b>Tree</b>	<a href="#">redundancy</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### switchover

<b>Description</b>	Trigger a redundancy switchover to the other control module
<b>Context</b>	<a href="#">platform redundancy switchover</a>
<b>Tree</b>	<a href="#">switchover</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### synchronize

<b>Description</b>	Top-level container for manual synchronization activities
<b>Context</b>	<a href="#">platform redundancy synchronize</a>
<b>Tree</b>	<a href="#">synchronize</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6



## overlay

<b>Description</b>	Force a synchronization of the overlay filesystem between the active control module and the standby  This synchronizes all non-excluded directories in the overlay filesystem
<b>Context</b>	<a href="#">platform redundancy synchronize overlay</a>
<b>Tree</b>	<a href="#">overlay</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## system

<b>Description</b>	Force a synchronization of the system-required data between the active control module and the standby  This synchronizes images, configuration, checkpoints, and other system-required data
<b>Context</b>	<a href="#">platform redundancy synchronize system</a>
<b>Tree</b>	<a href="#">system</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## show-fabric-bandwidth

<b>Description</b>	Show fabric bandwidth
<b>Context</b>	<a href="#">platform show-fabric-bandwidth</a>
<b>Tree</b>	<a href="#">show-fabric-bandwidth</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## 16 tools system

```
system
+ aaa
  + authentication
    + session id number
    + disconnect
+ app-management
  + application name string
  + kill
  + quit
  + reload
  + restart
    + cold
    + warm
  + start
  + statistics
    + clear
  + stop
+ boot
  + golden-image
  + clear
  + image string
+ cgroup
+ configuration
  + candidate name string
  + clear
  + checkpoint id (number | checkpoint-name)
    + clear
    + load
    + revert
  + confirmed-accept
  + confirmed-reject
  + generate-checkpoint
    + comment string
    + name string
  + rescue-clear
  + rescue-save
  + save
  + session id number
    + clear
  + upgrade
    + checkpoint id (number | checkpoint-name)
    + file string
    + rescue
    + startup
+ dhcp-server
  + network-instance name string
  + dhcpv4
    + statistics
    + clear
  + dhcpv6
    + statistics
    + clear
+ event-handler
  + instance name string
  + reload
  + statistics
```

```

    + clear
+ gribi-server
+   client id number
+   disconnect
+ l2cp-transparency
+   dot1x
+   clear
+   l2cp-total-statistics
+   clear
+   lacp
+   clear
+   lldp
+   clear
+   ptp
+   clear
+   xstp
+   clear
+ lldp
+   interface name string
+   statistics
+   clear
+   statistics
+   clear
+ p4rt-server
+   client id number
+   disconnect
+ packet-trace-base64
+   interface string
+   packet binary
+ sync
+   ptp
+   instance instance-number number
+   default-ds
+   statistics
+   clear
+   time-recovery-engine
+   statistics
+   clear
+   ptp-port-ds port-number number
+   statistics
+   clear
+   statistics
+   clear
+ tls
+   generate-csr
+   common-name string
+   country string
+   domain-names string
+   email string
+   ip-addresses (ipv4-address | ipv6-address)
+   key-size number
+   key-type keyword
+   locality string
+   organization string
+   organization-unit string
+   spiffe-id string
+   state string
+   type keyword
+   generate-self-signed
+   common-name string
+   country string
+   domain-names string
+   duration number
+   email string

```

---

```
+ ip-addresses (ipv4-address | ipv6-address)
+ key-size number
+ key-type keyword
+ locality string
+ organization string
+ organization-unit string
+ spiffe-id string
+ state string
+ type keyword
```

## 16.1 system Descriptions

### system

<b>Description</b>	Enclosing container for system management.
<b>Context</b>	<a href="#">system</a>
<b>Tree</b>	<a href="#">system</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### aaa

<b>Description</b>	Top-level container for operational commands related to AAA
<b>Context</b>	<a href="#">system aaa</a>
<b>Tree</b>	<a href="#">aaa</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### authentication

<b>Description</b>	Operational commands related to authentication
<b>Context</b>	<a href="#">system aaa authentication</a>
<b>Tree</b>	<a href="#">authentication</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### session id *number*

<b>Description</b>	List of active sessions in the system
<b>Context</b>	<a href="#">system aaa authentication session id number</a>
<b>Tree</b>	<a href="#">session</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**id number**

<b>Description</b>	System generated session ID
<b>Context</b>	<a href="#">system aaa authentication session id number</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**disconnect**

<b>Description</b>	Disconnect the cli session, requesting the cli to terminate
<b>Context</b>	<a href="#">system aaa authentication session id number disconnect</a>
<b>Tree</b>	<a href="#">disconnect</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**app-management**

<b>Description</b>	Operational commands related to app-management
<b>Context</b>	<a href="#">system app-management</a>
<b>Tree</b>	<a href="#">app-management</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**application name string**

<b>Description</b>	List of all applications managed by the application manager
<b>Context</b>	<a href="#">system app-management application name string</a>
<b>Tree</b>	<a href="#">application</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name string**

<b>Description</b>	Unique name of this application instance
<b>Context</b>	<a href="#">system app-management application name string</a>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## kill

**Description** Terminate the application instance ungracefully

**Context** [system app-management application name](#) *string* [kill](#)

**Tree** [kill](#)

**Configurable** True

**Platforms** Supported on all platforms

## quit

**Description** Terminate the application instance, requesting it to core dump

**Context** [system app-management application name](#) *string* [quit](#)

**Tree** [quit](#)

**Configurable** True

**Platforms** Supported on all platforms

## reload

**Description** Reload the configuration of the application instance

**Context** [system app-management application name](#) *string* [reload](#)

**Tree** [reload](#)

**Configurable** True

**Platforms** Supported on all platforms

## restart

**Description** Restart the application instance

The best restart that is supported by the application is used if neither 'warm' or 'cold' is specified. If 'warm' restart is supported that will be used, or 'cold' if 'warm' is unavailable.

A 'warm' restart will result in the application leaving its state in IDB during the restart, and recovering it post restart. This restart type results in less disruption to surrounding applications that would depend on the restarting applications state.

A 'cold' restart will result in a normal stop/start of the application, including the purging of its state in IDB.

---

<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> restart
<b>Tree</b>	<a href="#">restart</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**cold**

<b>Description</b>	Perform a cold restart of the application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> restart cold
<b>Tree</b>	<a href="#">cold</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**warm**

<b>Description</b>	Perform a warm restart of the application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> restart warm
<b>Tree</b>	<a href="#">warm</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**start**

<b>Description</b>	Start the application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> start
<b>Tree</b>	<a href="#">start</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Top-level grouping of operational commands related to application statistics
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> statistics
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms



## clear

<b>Description</b>	Clear statistics for this application instance
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## stop

<b>Description</b>	Terminate the application instance gracefully
<b>Context</b>	<a href="#">system app-management application name</a> <i>string</i> <a href="#">stop</a>
<b>Tree</b>	<a href="#">stop</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## boot

<b>Description</b>	Top-level container for operational commands related to booting the system
<b>Context</b>	<a href="#">system boot</a>
<b>Tree</b>	<a href="#">boot</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## golden-image

<b>Description</b>	Container for operational commands related to golden image
<b>Context</b>	<a href="#">system boot golden-image</a>
<b>Tree</b>	<a href="#">golden-image</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Unset the golden-image
<b>Context</b>	<a href="#">system boot golden-image clear</a>

<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **image** *string*

<b>Description</b>	Sets the golden image the system uses This command selects an image to act as a golden-image to which the system reverts when a factory reset operation is requested.
<b>Context</b>	<a href="#">system boot golden-image image</a> <i>string</i>
<b>Tree</b>	<a href="#">image</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **cgroup**

<b>Description</b>	Top-level container for query commands related to cgroup in the system
<b>Context</b>	<a href="#">system cgroup</a>
<b>Tree</b>	<a href="#">cgroup</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **configuration**

<b>Description</b>	Top-level container for operational commands related to the system configuration
<b>Context</b>	<a href="#">system configuration</a>
<b>Tree</b>	<a href="#">configuration</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **candidate** *name string*

<b>Description</b>	List of configuration candidates currently active
<b>Context</b>	<a href="#">system configuration candidate name</a> <i>string</i>

<b>Tree</b>	<a href="#">candidate</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	The name of the candidate
<b>Context</b>	<a href="#">system configuration candidate name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Clear the candidate from the system, discarding any changes This results in any users currently in the candidate being dropped back to running mode.
<b>Context</b>	<a href="#">system configuration candidate name</a> <i>string</i> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**checkpoint id** (*number* | *checkpoint-name*)

<b>Description</b>	List of current checkpoints present in the system
<b>Context</b>	<a href="#">system configuration checkpoint id</a> ( <i>number</i>   <i>checkpoint-name</i> )
<b>Tree</b>	<a href="#">checkpoint</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**id** (*number* | *checkpoint-name*)

<b>Description</b>	System generated ID, or operator defined name for the checkpoint
<b>Context</b>	<a href="#">system configuration checkpoint id</a> ( <i>number</i>   <i>checkpoint-name</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Clear the checkpoint from the system
<b>Context</b>	<a href="#">system configuration checkpoint id</a> ( <i>number</i>   <i>checkpoint-name</i> ) <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## load

<b>Description</b>	Load candidate from saved checkpoint configuration
<b>Context</b>	<a href="#">system configuration checkpoint id</a> ( <i>number</i>   <i>checkpoint-name</i> ) <a href="#">load</a>
<b>Tree</b>	<a href="#">load</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## revert

<b>Description</b>	Revert running system configuration to the saved checkpoint configuration This functions as a load and commit action.
<b>Context</b>	<a href="#">system configuration checkpoint id</a> ( <i>number</i>   <i>checkpoint-name</i> ) <a href="#">revert</a>
<b>Tree</b>	<a href="#">revert</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## confirmed-accept

<b>Description</b>	Accepts an in progress commit and stops the confirmation timer
<b>Context</b>	<a href="#">system configuration confirmed-accept</a>
<b>Tree</b>	<a href="#">confirmed-accept</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## confirmed-reject

<b>Description</b>	Rejects an in progress commit and stops the confirmation timer
--------------------	--

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<b>Context</b>	<a href="#">system configuration confirmed-reject</a>
<b>Tree</b>	<a href="#">confirmed-reject</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **generate-checkpoint**

<b>Description</b>	Generate a checkpoint point based on the current running configuration
<b>Context</b>	<a href="#">system configuration generate-checkpoint</a>
<b>Tree</b>	<a href="#">generate-checkpoint</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **comment *string***

<b>Description</b>	User provided comment to associate with the checkpoint
<b>Context</b>	<a href="#">system configuration generate-checkpoint comment <i>string</i></a>
<b>Tree</b>	<a href="#">comment</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **name *string***

<b>Description</b>	User provided name of the checkpoint
<b>Context</b>	<a href="#">system configuration generate-checkpoint name <i>string</i></a>
<b>Tree</b>	<a href="#">name</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **rescue-clear**

<b>Description</b>	Remove rescue configuration
<b>Context</b>	<a href="#">system configuration rescue-clear</a>
<b>Tree</b>	<a href="#">rescue-clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rescue-save**

<b>Description</b>	Save current running configuration as rescue configuration - rescue-config.json
<b>Context</b>	<a href="#">system configuration rescue-save</a>
<b>Tree</b>	<a href="#">rescue-save</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**save**

<b>Description</b>	Save current running configuration as initial (startup) configuration - config.json
<b>Context</b>	<a href="#">system configuration save</a>
<b>Tree</b>	<a href="#">save</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**session id *number***

<b>Description</b>	List of configuration sessions currently active
<b>Context</b>	<a href="#">system configuration session id <i>number</i></a>
<b>Tree</b>	<a href="#">session</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**id *number***

<b>Description</b>	System generated ID for the configuration session
<b>Context</b>	<a href="#">system configuration session id <i>number</i></a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Clear the session from the system, discarding any changes
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<b>Context</b>	<a href="#">system configuration session id</a> <i>number clear</i>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## upgrade

<b>Description</b>	Operational commands related to configuration upgrade
<b>Context</b>	<a href="#">system configuration upgrade</a>
<b>Tree</b>	<a href="#">upgrade</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## checkpoint id (*number | checkpoint-name*)

<b>Description</b>	List of configuration checkpoints
<b>Context</b>	<a href="#">system configuration upgrade checkpoint id</a> ( <i>number   checkpoint-name</i> )
<b>Tree</b>	<a href="#">checkpoint</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## id (*number | checkpoint-name*)

<b>Description</b>	System generated ID, or operator defined name for the checkpoint
<b>Context</b>	<a href="#">system configuration upgrade checkpoint id</a> ( <i>number   checkpoint-name</i> )
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## file *string*

<b>Description</b>	System file path to a json configuration file
<b>Context</b>	<a href="#">system configuration upgrade file</a> <i>string</i>
<b>Tree</b>	<a href="#">file</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**rescue**

<b>Description</b>	Rescue configuration
<b>Context</b>	<a href="#">system configuration upgrade rescue</a>
<b>Tree</b>	<a href="#">rescue</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**startup**

<b>Description</b>	Startup (initial) configuration
<b>Context</b>	<a href="#">system configuration upgrade startup</a>
<b>Tree</b>	<a href="#">startup</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**dhcp-server**

<b>Description</b>	Enable the dhcp-server context
<b>Context</b>	<a href="#">system dhcp-server</a>
<b>Tree</b>	<a href="#">dhcp-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**network-instance** [name](#) *string*

<b>Description</b>	List of network instances to run a dhcp server in
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>string</i>
<b>Tree</b>	<a href="#">network-instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**name** *string*

<b>Description</b>	Network Instance
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>string</i>



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<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dhcpv4

<b>Description</b>	Enter the dhcpv4 context
<b>Context</b>	<a href="#">system dhcp-server network-instance name <i>string</i> dhcpv4</a>
<b>Tree</b>	<a href="#">dhcpv4</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system dhcp-server network-instance name <i>string</i> dhcpv4 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">system dhcp-server network-instance name <i>string</i> dhcpv4 statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## dhcpv6

<b>Description</b>	Enter the dhcpv6 context
<b>Context</b>	<a href="#">system dhcp-server network-instance name <i>string</i> dhcpv6</a>
<b>Tree</b>	<a href="#">dhcpv6</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>string</i> <a href="#">dhcpv6 statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">system dhcp-server network-instance name</a> <i>string</i> <a href="#">dhcpv6 statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**event-handler**

<b>Description</b>	Top-level container for operational commands on event handler and event handling instances
<b>Context</b>	<a href="#">system event-handler</a>
<b>Tree</b>	<a href="#">event-handler</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**instance** [name](#) *string*

<b>Description</b>	List of all event handler instances
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	20

**name** *string*

<b>Description</b>	A user-defined name for this event handler instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**reload**

<b>Description</b>	Reload the Python script for this event handler instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">reload</a>
<b>Tree</b>	<a href="#">reload</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**statistics**

<b>Description</b>	Top-level container for operational commands on event handler statistics
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**clear**

<b>Description</b>	Clear statistics for this event handler instance
<b>Context</b>	<a href="#">system event-handler instance name</a> <i>string</i> <a href="#">statistics</a> <a href="#">clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**gribi-server**

<b>Description</b>	Tools relating to the gRPC Routing Information Base Interface (gRIBI) service
<b>Context</b>	<a href="#">system gribi-server</a>

<b>Tree</b>	<a href="#">gribi-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **client id number**

<b>Description</b>	List of active gRIBI client sessions
<b>Context</b>	<a href="#">system gribi-server client id number</a>
<b>Tree</b>	<a href="#">client</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **id number**

<b>Description</b>	System generated ID for for the client
<b>Context</b>	<a href="#">system gribi-server client id number</a>
<b>Range</b>	0 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **disconnect**

<b>Description</b>	Disconnect this client from the server
<b>Context</b>	<a href="#">system gribi-server client id number disconnect</a>
<b>Tree</b>	<a href="#">disconnect</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

### **I2cp-transparency**

<b>Description</b>	Enable the I2cp-transparency context
<b>Context</b>	<a href="#">system I2cp-transparency</a>
<b>Tree</b>	<a href="#">I2cp-transparency</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## dot1x

<b>Description</b>	Enter the dot1x context
<b>Context</b>	<a href="#">system l2cp-transparency dot1x</a>
<b>Tree</b>	<a href="#">dot1x</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## clear

<b>Description</b>	Clears the statistics for the 802.1x Port based Network Access Control protocol.
<b>Context</b>	<a href="#">system l2cp-transparency dot1x clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## l2cp-total-statistics

<b>Description</b>	Enter the l2cp-total-statistics context
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-total-statistics</a>
<b>Tree</b>	<a href="#">l2cp-total-statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## clear

<b>Description</b>	Clears the global statistics for the L2CP protocols.
<b>Context</b>	<a href="#">system l2cp-transparency l2cp-total-statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## lACP

<b>Description</b>	Enter the lACP context
<b>Context</b>	<a href="#">system l2cp-transparency lACP</a>
<b>Tree</b>	<a href="#">lACP</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## clear

<b>Description</b>	Clears the statistics for Link Aggregation Control Protocol.
<b>Context</b>	<a href="#">system l2cp-transparency lACP clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## lLDP

<b>Description</b>	Enter the lLDP context
<b>Context</b>	<a href="#">system l2cp-transparency lLDP</a>
<b>Tree</b>	<a href="#">lLDP</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## clear

<b>Description</b>	Clears the statistics for Link Layer Discovery Protocol.
<b>Context</b>	<a href="#">system l2cp-transparency lLDP clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## ptp

<b>Description</b>	Enter the ptp context
<b>Context</b>	<a href="#">system l2cp-transparency ptp</a>
<b>Tree</b>	<a href="#">ptp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## clear

<b>Description</b>	Clears the statistics for the Precision Time Protocol .
<b>Context</b>	<a href="#">system l2cp-transparency ptp clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## xstp

<b>Description</b>	Enter the xstp context
<b>Context</b>	<a href="#">system l2cp-transparency xstp</a>
<b>Tree</b>	<a href="#">xstp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## clear

<b>Description</b>	Clears the statistics for all the Spanning Tree Protocols.
<b>Context</b>	<a href="#">system l2cp-transparency xstp clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D1, 7220 IXR-D2

## lldp

<b>Description</b>	Top-level container for LLDP tools
<b>Context</b>	<a href="#">system lldp</a>
<b>Tree</b>	<a href="#">lldp</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## interface [name string](#)

<b>Description</b>	List of interfaces on which LLDP is enabled
<b>Context</b>	<a href="#">system lldp interface name string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## name [string](#)

<b>Description</b>	Reference to a LLDP Ethernet interface
<b>Context</b>	<a href="#">system lldp interface name string</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	LLDP interface statistics tools commands
<b>Context</b>	<a href="#">system lldp interface name string statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Clear interface LLDP statistics
<b>Context</b>	<a href="#">system lldp interface name string statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>



<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## statistics

<b>Description</b>	LLDP global statistics tools commands
<b>Context</b>	<a href="#">system lldp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## clear

<b>Description</b>	Clear global LLDP statistics
<b>Context</b>	<a href="#">system lldp statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## p4rt-server

<b>Description</b>	Tools relating to the P4Runtime service
<b>Context</b>	<a href="#">system p4rt-server</a>
<b>Tree</b>	<a href="#">p4rt-server</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

## client *id number*

<b>Description</b>	List of active P4Runtime client sessions
<b>Context</b>	<a href="#">system p4rt-server client id <i>number</i></a>
<b>Tree</b>	<a href="#">client</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**id number**

<b>Description</b>	System generated ID for for the client
<b>Context</b>	<a href="#">system p4rt-server client id number</a>
<b>Range</b>	0 to 4294967295
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**disconnect**

<b>Description</b>	Disconnect this client from the server
<b>Context</b>	<a href="#">system p4rt-server client id number disconnect</a>
<b>Tree</b>	<a href="#">disconnect</a>
<b>Configurable</b>	True
<b>Platforms</b>	7250 IXR-10e, 7250 IXR-6e, 7250 IXR-10, 7250 IXR-6

**packet-trace-base64**

<b>Description</b>	Tools command to report the forwarding behavior for a specified test packet (packet specified in base64 format)
<b>Context</b>	<a href="#">system packet-trace-base64</a>
<b>Tree</b>	<a href="#">packet-trace-base64</a>
<b>Configurable</b>	True
<b>Platforms</b>	All platforms except 7220 IXR-D5

**interface string**

<b>Description</b>	References the configured name of the interface in which to inject the probe packet
<b>Context</b>	<a href="#">system packet-trace-base64 interface string</a>
<b>Tree</b>	<a href="#">interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	All platforms except 7220 IXR-D5

**packet binary**

<b>Description</b>	Packet content encoded in base64 string format
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<b>Context</b>	<a href="#">system packet-trace-base64 packet</a> <i>binary</i>
<b>Tree</b>	<a href="#">packet</a>
<b>Configurable</b>	True
<b>Platforms</b>	All platforms except 7220 IXR-D5

## sync

<b>Description</b>	Top-level grouping for sync operational commands
<b>Context</b>	<a href="#">system sync</a>
<b>Tree</b>	<a href="#">sync</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## ptp

<b>Description</b>	Grouping for ptp operational commands
<b>Context</b>	<a href="#">system sync ptp</a>
<b>Tree</b>	<a href="#">ptp</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## instance [instance-number](#) *number*

<b>Description</b>	Grouping for PTP instance operational commands
<b>Context</b>	<a href="#">system sync ptp instance instance-number</a> <i>number</i>
<b>Tree</b>	<a href="#">instance</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## instance-number *number*

<b>Description</b>	Enter the instance-number context
<b>Context</b>	<a href="#">system sync ptp instance instance-number</a> <i>number</i>
<b>Range</b>	1 to 10
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## default-ds

<b>Description</b>	The default data set of the PTP Instance In the context of the protocol, this data set is required for an Ordinary Clock or Boundary Clock
<b>Context</b>	<a href="#">system sync ptp instance instance-number number default-ds</a>
<b>Tree</b>	<a href="#">default-ds</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system sync ptp instance instance-number number default-ds statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## clear

<b>Description</b>	Clears PTP statistics and event counters in the default-ds
<b>Context</b>	<a href="#">system sync ptp instance instance-number number default-ds statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

## time-recovery-engine

<b>Description</b>	Enter the time-recovery-engine context
<b>Context</b>	<a href="#">system sync ptp instance instance-number number default-ds time-recovery-engine</a>
<b>Tree</b>	<a href="#">time-recovery-engine</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system sync ptp instance instance-number number default-ds time-recovery-engine statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**clear**

<b>Description</b>	Clears all PTP statistics for PTP time recovery engine
<b>Context</b>	<a href="#">system sync ptp instance instance-number number default-ds time-recovery-engine statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**ptp-port-ds** [port-number number](#)

<b>Description</b>	Grouping for PTP Port DS operational commands
<b>Context</b>	<a href="#">system sync ptp instance instance-number number ptp-port-ds port-number number</a>
<b>Tree</b>	<a href="#">ptp-port-ds</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**port-number** [number](#)

<b>Description</b>	Enter the port-number context
<b>Context</b>	<a href="#">system sync ptp instance instance-number number ptp-port-ds port-number number</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**statistics**

<b>Description</b>	Enter the statistics context
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<b>Context</b>	<a href="#">system sync ptp instance instance-number number ptp-port-ds port-number number statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**clear**

<b>Description</b>	Clears all PTP statistics for this PTP Port DS
<b>Context</b>	<a href="#">system sync ptp instance instance-number number ptp-port-ds port-number number statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">system sync ptp statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**clear**

<b>Description</b>	Clears all PTP statistics for PTP
<b>Context</b>	<a href="#">system sync ptp statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D5

**tls**

<b>Description</b>	Top-level container for operational commands related to TLS
<b>Context</b>	<a href="#">system tls</a>
<b>Tree</b>	<a href="#">tls</a>

<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## generate-csr

<b>Description</b>	Generates a certificate signing request and key pair Fields for the certificate are taken from OpenSSL defaults, with the exception of the common name, which is taken from the system host name and domain name combination.
<b>Context</b>	<a href="#">system tls generate-csr</a>
<b>Tree</b>	<a href="#">generate-csr</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## common-name *string*

<b>Description</b>	The common name to use for the certificate signing request By default the common name is set to the system host name and domain name combination.
<b>Context</b>	<a href="#">system tls generate-csr common-name <i>string</i></a>
<b>Tree</b>	<a href="#">common-name</a>
<b>String Length</b>	1 to 64
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## country *string*

<b>Description</b>	The country name to use for the certificate signing request The expected format is two characters long, e.g. 'US'.
<b>Context</b>	<a href="#">system tls generate-csr country <i>string</i></a>
<b>Tree</b>	<a href="#">country</a>
<b>String Length</b>	2
<b>Default</b>	US
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**domain-names** *string*

<b>Description</b>	Domain names to add to the SubjectAlternativeName field within the certificate signing request These names are encoded as DNS:<name> within the certificate SAN.
<b>Context</b>	<a href="#">system tls generate-csr domain-names string</a>
<b>Tree</b>	<a href="#">domain-names</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**email** *string*

<b>Description</b>	The email address to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr email string</a>
<b>Tree</b>	<a href="#">email</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-addresses** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	IP addresses to add to the SubjectAlternativeName field within the certificate signing request These addresses are encoded as IP:<ip> within the certificate SAN.
<b>Context</b>	<a href="#">system tls generate-csr ip-addresses (ipv4-address   ipv6-address)</a>
<b>Tree</b>	<a href="#">ip-addresses</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**key-size** *number*

<b>Description</b>	The size of the private key to generate for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr key-size number</a>
<b>Tree</b>	<a href="#">key-size</a>



---

<b>Range</b>	1024 to 16384
<b>Default</b>	4096
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **key-type** *keyword*

<b>Description</b>	The type of private key to generate for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr key-type keyword</a>
<b>Tree</b>	<a href="#">key-type</a>
<b>Default</b>	rsa
<b>Options</b>	<ul style="list-style-type: none"><li>• rsa</li></ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **locality** *string*

<b>Description</b>	The city or locality to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr locality string</a>
<b>Tree</b>	<a href="#">locality</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **organization** *string*

<b>Description</b>	The organization to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr organization string</a>
<b>Tree</b>	<a href="#">organization</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **organization-unit** *string*

<b>Description</b>	The organization unit to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr organization-unit</a> <i>string</i>
<b>Tree</b>	<a href="#">organization-unit</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **spiffe-id** *string*

<b>Description</b>	A SPIFFE ID to use for the certificate signing request This ID is in URI form, including the leading 'spiffe://', for example 'spiffe://srlinux.dev/sa/user'.
<b>Context</b>	<a href="#">system tls generate-csr spiffe-id</a> <i>string</i>
<b>Tree</b>	<a href="#">spiffe-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **state** *string*

<b>Description</b>	The state or province to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr state</a> <i>string</i>
<b>Tree</b>	<a href="#">state</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **type** *keyword*

<b>Description</b>	The type of certificate to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-csr type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Default</b>	x509
<b>Options</b>	<ul style="list-style-type: none"><li>• x509</li></ul>
<b>Configurable</b>	True

**Platforms** Supported on all platforms

## generate-self-signed

**Description** Generates a self signed certificate and key pair  
Fields for the self signed certificate are taken from OpenSSL defaults, with the exception of the common name, which is taken from the system host name and domain name combination.

**Context** [system tls generate-self-signed](#)

**Tree** [generate-self-signed](#)

**Configurable** True

**Platforms** Supported on all platforms

## common-name *string*

**Description** The common name to use for the certificate signing request  
By default the common name is set to the system host name and domain name combination.

**Context** [system tls generate-self-signed common-name \*string\*](#)

**Tree** [common-name](#)

**String Length** 1 to 64

**Configurable** True

**Platforms** Supported on all platforms

## country *string*

**Description** The country name to use for the certificate signing request  
The expected format is two characters long, e.g. 'US'.

**Context** [system tls generate-self-signed country \*string\*](#)

**Tree** [country](#)

**String Length** 2

**Default** US

**Configurable** True

**Platforms** Supported on all platforms

**domain-names** *string*

<b>Description</b>	Domain names to add to the SubjectAlternativeName field within the certificate signing request These names are encoded as DNS:<name> within the certificate SAN.
<b>Context</b>	<a href="#">system tls generate-self-signed domain-names</a> <i>string</i>
<b>Tree</b>	<a href="#">domain-names</a>
<b>String Length</b>	1 to 253
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**duration** *number*

<b>Description</b>	The time in which the certificate is valid
<b>Context</b>	<a href="#">system tls generate-self-signed duration</a> <i>number</i>
<b>Tree</b>	<a href="#">duration</a>
<b>Range</b>	1 to 3650
<b>Default</b>	365
<b>Units</b>	days
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**email** *string*

<b>Description</b>	The email address to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed email</a> <i>string</i>
<b>Tree</b>	<a href="#">email</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**ip-addresses** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	IP addresses to add to the SubjectAlternativeName field within the certificate signing request These addresses are encoded as IP:<ip> within the certificate SAN.
--------------------	--

---

<b>Context</b>	<a href="#">system tls generate-self-signed ip-addresses</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Tree</b>	<a href="#">ip-addresses</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms
<b>Max. Elements</b>	32

**key-size** *number*

<b>Description</b>	The size of the private key to generate for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed key-size</a> <i>number</i>
<b>Tree</b>	<a href="#">key-size</a>
<b>Range</b>	1024 to 16384
<b>Default</b>	4096
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**key-type** *keyword*

<b>Description</b>	The type of private key to generate for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed key-type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">key-type</a>
<b>Default</b>	rsa
<b>Options</b>	<ul style="list-style-type: none"> <li>• <code>rsa</code></li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**locality** *string*

<b>Description</b>	The city or locality to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed locality</a> <i>string</i>
<b>Tree</b>	<a href="#">locality</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **organization *string***

<b>Description</b>	The organization to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed organization <i>string</i></a>
<b>Tree</b>	<a href="#">organization</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **organization-unit *string***

<b>Description</b>	The organization unit to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed organization-unit <i>string</i></a>
<b>Tree</b>	<a href="#">organization-unit</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **spiffe-id *string***

<b>Description</b>	A SPIFFE ID to use for the certificate signing request This ID is in URI form, including the leading 'spiffe://', for example 'spiffe://srlinux.dev/sa/user'.
<b>Context</b>	<a href="#">system tls generate-self-signed spiffe-id <i>string</i></a>
<b>Tree</b>	<a href="#">spiffe-id</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### **state *string***

<b>Description</b>	The state or province to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed state <i>string</i></a>
<b>Tree</b>	<a href="#">state</a>
<b>String Length</b>	1 to 255
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

**type** *keyword*

<b>Description</b>	The type of certificate to use for the certificate signing request
<b>Context</b>	<a href="#">system tls generate-self-signed type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Default</b>	x509
<b>Options</b>	<ul style="list-style-type: none"><li>• x509</li></ul>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

## 17 tools tunnel

```
tunnel
+ vxlan-tunnel
  + statistics
  + clear
+ vtep address (ipv4-address | ipv6-address)
  + statistics
  + clear
```



## 17.1 tunnel Descriptions

### tunnel

<b>Description</b>	This model collects all config and state aspects of the tools-tunnel table in SR Linux.
<b>Context</b>	<a href="#">tunnel</a>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Configurable</b>	True
<b>Platforms</b>	Supported on all platforms

### vxlan-tunnel

<b>Description</b>	Enter the vxlan-tunnel context
<b>Context</b>	<a href="#">tunnel vxlan-tunnel</a>
<b>Tree</b>	<a href="#">vxlan-tunnel</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### clear

<b>Description</b>	Enter the clear context
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics clear</a>
<b>Tree</b>	<a href="#">clear</a>
<b>Configurable</b>	True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **vtep address** (*ipv4-address* | *ipv6-address*)

**Description** The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).

**Context** [tunnel vxlan-tunnel vtep address](#) (*ipv4-address* | *ipv6-address*)

**Tree** [vtep](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **address** (*ipv4-address* | *ipv6-address*)

**Description** The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).

**Context** [tunnel vxlan-tunnel vtep address](#) (*ipv4-address* | *ipv6-address*)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **statistics**

**Description** Enter the statistics context

**Context** [tunnel vxlan-tunnel vtep address](#) (*ipv4-address* | *ipv6-address*) [statistics](#)

**Tree** [statistics](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **clear**

**Description** Enter the clear context

**Context** [tunnel vxlan-tunnel vtep address](#) (*ipv4-address* | *ipv6-address*) [statistics](#) [clear](#)

**Tree** [clear](#)

**Configurable** True

---

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3,  
7220 IXR-D2

## 18 tunnel-interface

```

tunnel-interface name string
+ vxlan-interface index number
+ bridge-table
- multicast-destinations
  - destination vtep (ipv4-address | ipv6-address) vni number
  - destination-index number
  - multicast-forwarding keyword
  - not-programmed-reason keyword
- statistics
  - active-entries number
  - failed-entries number
  - mac-type type keyword
  - active-entries number
  - failed-entries number
  - total-entries number
  - total-entries number
- unicast-destinations
  - destination vtep (ipv4-address | ipv6-address) vni number
  - destination-index number
  - mac-table
    - mac address string
    - failed-slots number
    - last-update string
    - not-programmed-reason keyword
    - type keyword
  - statistics
    - active-entries number
    - failed-entries number
    - mac-type type keyword
    - active-entries number
    - failed-entries number
    - total-entries number
    - total-entries number
  - es-destination esi string
  - destination-index number
  - mac-table
    - mac address string
    - failed-slots number
    - last-update string
    - not-programmed-reason keyword
    - type keyword
  - statistics
    - active-entries number
    - failed-entries number
    - mac-type type keyword
    - active-entries number
    - failed-entries number
    - total-entries number
    - total-entries number
  - vtep address (ipv4-address | ipv6-address) vni number
+ egress
+ inner-ethernet-header
  + source-mac keyword
  - used-source-mac string
+ source-ip keyword
+ ingress

```

- 
- + **vni** *number*
  - **oper-down-reason** *keyword*
  - **oper-state** *keyword*
  - + **type** *identityref*

## 18.1 tunnel-interface Descriptions

### tunnel-interface *name string*

<b>Description</b>	In the case that the interface is logical tunnel interface, the parameters for the tunnel are specified within this subtree. Tunnel interfaces have only a single logical subinterface associated with them.
<b>Context</b>	<a href="#">tunnel-interface name string</a>
<b>Tree</b>	<a href="#">tunnel-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### name *string*

<b>Description</b>	The name of the tunnel-interface. Valid options are: vxlan<N>, N=0..255
<b>Context</b>	<a href="#">tunnel-interface name string</a>
<b>String Length</b>	6 to 8
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### vxlan-interface *index number*

<b>Description</b>	The list of vxlan-interfaces.
<b>Context</b>	<a href="#">tunnel-interface name string vxlan-interface index number</a>
<b>Tree</b>	<a href="#">vxlan-interface</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2
<b>Max. Elements</b>	16384

### index *number*

<b>Description</b>	The index of the vxlan-tunnel.
--------------------	--------------------------------

<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i>
<b>Range</b>	0 to 999999999
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## bridge-table

<b>Description</b>	Enable the bridge-table context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table</a>
<b>Tree</b>	<a href="#">bridge-table</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## multicast-destinations

<b>Description</b>	Enter the multicast-destinations context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">multicast-destinations</a>
<b>Tree</b>	<a href="#">multicast-destinations</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## destination [vtep](#) (*ipv4-address* | *ipv6-address*) [vni](#) *number*

<b>Description</b>	Enter the destination list instance
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table</a> <a href="#">multicast-destinations</a> <a href="#">destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni</a> <i>number</i>
<b>Tree</b>	<a href="#">destination</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vtep** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table multicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vni** *number*

<b>Description</b>	VXLAN Network Identifier of the destination.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table multicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a>
<b>Range</b>	1 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**destination-index** *number*

<b>Description</b>	A system-wide unique identifier of this vxlan destination object (system allocated).
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table multicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">destination-index</a> <i>number</i>
<b>Tree</b>	<a href="#">destination-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**multicast-forwarding** *keyword*

<b>Description</b>	The type of multicast data forwarded by this vxlan destination.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table multicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">multicast-forwarding</a> <i>keyword</i>



<b>Tree</b>	<a href="#">multicast-forwarding</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• none</li> <li>• BUM</li> <li>• unknown-unicast</li> <li>• broadcast-mcast</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **not-programmed-reason** *keyword*

<b>Description</b>	The reason why the destination is not programmed in the floodlist
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table multicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <b>not-programmed-reason</b> <i>keyword</i>
<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• no-destination-index</li> <li>• multicast-limit</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **active-entries** *number*

<b>Description</b>	The total number of entries that are active on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table statistics active-entries</a> <i>number</i>

<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **failed-entries** *number*

<b>Description</b>	The total number of macs, which have not been programmed on at least one slot
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table statistics failed-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **mac-type** *type keyword*

<b>Description</b>	The type of the mac on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table statistics mac-type</a> <i>type keyword</i>
<b>Tree</b>	<a href="#">mac-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type** *keyword*

<b>Description</b>	Enter the type context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table statistics mac-type</a> <i>type keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> <li>• evpn</li> </ul>

- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**active-entries** *number***Description**

The total number of entries of this type on the sub-interface

**Context**[tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table statistics mac-type type](#) *keyword* [active-entries](#) *number***Tree**[active-entries](#)**Default**

0

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**failed-entries** *number***Description**

The total number of macs of this type, which have not been programmed on at least one slot

**Context**[tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table statistics mac-type type](#) *keyword* [failed-entries](#) *number***Tree**[failed-entries](#)**Default**

0

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**total-entries** *number***Description**

The total number of macs of this type, active and inactive, on the sub-interface.

**Context**[tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table statistics mac-type type](#) *keyword* [total-entries](#) *number*

<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

<b>Description</b>	The total number of macs, active and inactive, on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table statistics total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **unicast-destinations**

<b>Description</b>	Enter the unicast-destinations context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations</a>
<b>Tree</b>	<a href="#">unicast-destinations</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **destination** [vtep](#) (*ipv4-address* | *ipv6-address*) [vni](#) *number*

<b>Description</b>	Enter the destination list instance
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni</a> <i>number</i>
<b>Tree</b>	<a href="#">destination</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vtep** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vni number**

<b>Description</b>	VXLAN Network Identifier of the destination.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a>
<b>Range</b>	1 to 16777215
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**destination-index number**

<b>Description</b>	A system-wide unique identifier of this vxlan destination object (system allocated).
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">destination-index number</a>
<b>Tree</b>	<a href="#">destination-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**mac-table**

<b>Description</b>	Enter the mac-table context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">mac-table</a>

<b>Tree</b>	<a href="#">mac-table</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **mac address string**

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">tunnel-interface name string vxlan-interface index number bridge-table unicast-destinations destination vtep (ipv4-address   ipv6-address) vni number mac-table mac address string</a>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **address string**

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">tunnel-interface name string vxlan-interface index number bridge-table unicast-destinations destination vtep (ipv4-address   ipv6-address) vni number mac-table mac address string</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **failed-slots number**

<b>Description</b>	The list of slot IDs corresponding to the linecards that did not successfully program the mac
<b>Context</b>	<a href="#">tunnel-interface name string vxlan-interface index number bridge-table unicast-destinations destination vtep (ipv4-address   ipv6-address) vni number mac-table mac address string failed-slots number</a>
<b>Tree</b>	<a href="#">failed-slots</a>
<b>Range</b>	1 to 8
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this mac
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">mac-table mac address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**not-programmed-reason** *keyword*

<b>Description</b>	The reason why the mac is not programmed
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">mac-table mac address</a> <i>string</i> <a href="#">not-programmed-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• mac-limit</li> <li>• failed-on-slots</li> <li>• no-destination-index</li> <li>• reserved</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**type** *keyword*

<b>Description</b>	The type of the mac installed in the fib.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">mac-table mac address</a> <i>string</i> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> </ul>

- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## statistics

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index number</a> <a href="#">bridge-table unicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## active-entries *number*

<b>Description</b>	The total number of entries that are active on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index number</a> <a href="#">bridge-table unicast-destinations destination vtep</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">vni number</a> <a href="#">statistics</a> <a href="#">active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## failed-entries *number*

<b>Description</b>	The total number of macs, which have not been programmed on atleast one slot
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<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep (ipv4-address   ipv6-address)</a> <a href="#">vni number</a> <a href="#">statistics failed-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **mac-type** [type](#) *keyword*

<b>Description</b>	The type of the mac on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep (ipv4-address   ipv6-address)</a> <a href="#">vni number</a> <a href="#">statistics</a> <a href="#">mac-type</a> <a href="#">type</a> <i>keyword</i>
<b>Tree</b>	<a href="#">mac-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type** *keyword*

<b>Description</b>	Enter the type context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations destination</a> <a href="#">vtep (ipv4-address   ipv6-address)</a> <a href="#">vni number</a> <a href="#">statistics</a> <a href="#">mac-type</a> <a href="#">type</a> <i>keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> <li>• evpn</li> <li>• evpn-static</li> <li>• irb-interface-anycast</li> <li>• proxy-anti-spoof</li> <li>• reserved</li> <li>• eth-cfm</li> </ul>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **active-entries** *number*

**Description** The total number of entries of this type on the sub-interface

**Context** [tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations destination vtep](#) (*ipv4-address* | *ipv6-address*) [vni number](#) [statistics mac-type type](#) *keyword* **active-entries** *number*

**Tree** [active-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **failed-entries** *number*

**Description** The total number of macs of this type, which have not been programmed on atleast one slot

**Context** [tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations destination vtep](#) (*ipv4-address* | *ipv6-address*) [vni number](#) [statistics mac-type type](#) *keyword* **failed-entries** *number*

**Tree** [failed-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of macs of this type , active and inactive, on the sub-interface.

**Context** [tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations destination vtep](#) (*ipv4-address* | *ipv6-address*) [vni number](#) [statistics mac-type type](#) *keyword* **total-entries** *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **total-entries** *number*

**Description** The total number of macs, active and inactive, on the sub-interface.

**Context** [tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations destination vtep](#) (*ipv4-address* | *ipv6-address*) [vni number](#) [statistics total-entries](#) *number*

**Tree** [total-entries](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **es-destination** *esi string*

**Description** Enter the es-destination list instance

**Context** [tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations es-destination esi](#) *string*

**Tree** [es-destination](#)

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **esi** *string*

**Description** The 10-byte Ethernet Segment Identifier of the ethernet segment. ESI-0 or MAX-ESI values are not allowed.

**Context** [tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations es-destination esi](#) *string*

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **destination-index** *number*

**Description** A system-wide unique identifier of this vxlan destination object (system allocated).

<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">destination-index</a> <i>number</i>
<b>Tree</b>	<a href="#">destination-index</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mac-table

<b>Description</b>	Enter the mac-table context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table</a>
<b>Tree</b>	<a href="#">mac-table</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## mac *address string*

<b>Description</b>	macs learnt on the bridging instance
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table mac address</a> <i>string</i>
<b>Tree</b>	<a href="#">mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## address *string*

<b>Description</b>	Enter the address context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table mac address</a> <i>string</i>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**failed-slots** *number*

<b>Description</b>	The list of slot IDs corresponding to the linecards that did not successfully program the mac
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table mac address</a> <i>string</i> <a href="#">failed-slots</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-slots</a>
<b>Range</b>	1 to 8
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**last-update** *string*

<b>Description</b>	The date and time of the last update of this mac
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table mac address</a> <i>string</i> <a href="#">last-update</a> <i>string</i>
<b>Tree</b>	<a href="#">last-update</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**not-programmed-reason** *keyword*

<b>Description</b>	The reason why the mac is not programmed
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table mac address</a> <i>string</i> <a href="#">not-programmed-reason</a> <i>keyword</i>
<b>Tree</b>	<a href="#">not-programmed-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• mac-limit</li> <li>• failed-on-slots</li> <li>• no-destination-index</li> <li>• reserved</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**type** *keyword*

<b>Description</b>	The type of the mac installed in the fib.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">mac-table mac address</a> <i>string</i> <i>type</i> <i>keyword</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> <li>• evpn</li> <li>• evpn-static</li> <li>• irb-interface-anycast</li> <li>• proxy-anti-spoof</li> <li>• reserved</li> <li>• eth-cfm</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**statistics**

<b>Description</b>	Enter the statistics context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**active-entries** *number*

<b>Description</b>	The total number of entries that are active on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics active-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">active-entries</a>

<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **failed-entries** *number*

<b>Description</b>	The total number of macs, which have not been programmed on atleast one slot
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics failed-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">failed-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **mac-type** *type keyword*

<b>Description</b>	The type of the mac on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics mac-type</a> <i>type keyword</i>
<b>Tree</b>	<a href="#">mac-type</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **type** *keyword*

<b>Description</b>	Enter the type context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics mac-type</a> <i>type keyword</i>
<b>Options</b>	<ul style="list-style-type: none"> <li>• static</li> <li>• duplicate</li> <li>• learnt</li> <li>• irb-interface</li> <li>• evpn</li> </ul>

- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**active-entries** *number***Description**

The total number of entries of this type on the sub-interface

**Context**

[tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations es-destination esi](#) *string* [statistics mac-type type keyword active-entries](#) *number*

**Tree**[active-entries](#)**Default**

0

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**failed-entries** *number***Description**

The total number of macs of this type, which have not been programmed on atleast one slot

**Context**

[tunnel-interface name](#) *string* [vxlan-interface index](#) *number* [bridge-table unicast-destinations es-destination esi](#) *string* [statistics mac-type type keyword failed-entries](#) *number*

**Tree**[failed-entries](#)**Default**

0

**Configurable**

False

**Platforms**

7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**total-entries** *number***Description**

The total number of macs of this type , active and inactive, on the sub-interface.



<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics mac-type type keyword total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**total-entries** *number*

<b>Description</b>	The total number of macs, active and inactive, on the sub-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">statistics total-entries</a> <i>number</i>
<b>Tree</b>	<a href="#">total-entries</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**vtep** [address](#) (*ipv4-address* | *ipv6-address*) *vni number*

<b>Description</b>	Add a list entry for vtep
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">vtep address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <i>vni number</i>
<b>Tree</b>	<a href="#">vtep</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">bridge-table unicast-destinations es-destination esi</a> <i>string</i> <a href="#">vtep address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <i>vni number</i>
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### vni number

**Description** VXLAN Network Identifier of the destination.

**Context** [tunnel-interface name](#) *string* [vxlan-interface index number](#) [bridge-table unicast-destinations es-destination esi](#) *string* [vtep address \(ipv4-address | ipv6-address\)](#) *vni number*

**Range** 1 to 16777215

**Configurable** False

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### egress

**Description** Enter the egress context

**Context** [tunnel-interface name](#) *string* [vxlan-interface index number](#) *egress*

**Tree** [egress](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### inner-ethernet-header

**Description** Parameters of the inner VXLAN ethernet payload when the VXLAN tunnel is used in an ip-vrf.

**Context** [tunnel-interface name](#) *string* [vxlan-interface index number](#) [egress inner-ethernet-header](#)

**Tree** [inner-ethernet-header](#)

**Configurable** True

**Platforms** 7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### source-mac keyword

**Description** VXLAN inner ethernet source mac-address. Present when the VXLAN tunnel is associated with a ip-vrf network-instance.

<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">egress inner-ethernet-header source-mac</a> <i>keyword</i>
<b>Tree</b>	<a href="#">source-mac</a>
<b>Default</b>	use-system-mac
<b>Options</b>	<ul style="list-style-type: none"> <li>• use-system-mac</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### used-source-mac *string*

<b>Description</b>	VXLAN inner ethernet source mac-address in use. Present when the VXLAN tunnel is associated with a ip-vrf network-instance.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">egress inner-ethernet-header used-source-mac</a> <i>string</i>
<b>Tree</b>	<a href="#">used-source-mac</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### source-ip *keyword*

<b>Description</b>	The ip-address that will be used as the source-ip for all vxlan traffic egressing this vxlan-interface.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">egress source-ip</a> <i>keyword</i>
<b>Tree</b>	<a href="#">source-ip</a>
<b>Default</b>	use-system-ipv4-address
<b>Options</b>	<ul style="list-style-type: none"> <li>• use-system-ipv4-address</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### ingress

<b>Description</b>	Enter the ingress context
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">ingress</a>

<b>Tree</b>	<a href="#">ingress</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **vni number**

<b>Description</b>	Ingress VXLAN Network Identifier of the VXLAN subinterface. The egress VNI is determined by the static egress-vni configured in the associated destination or by the dynamic egress-vni learned from the control plane.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index number</a> <a href="#">ingress vni number</a>
<b>Tree</b>	<a href="#">vni</a>
<b>Range</b>	1 to 16777215
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-down-reason keyword**

<b>Description</b>	The reason why the vxlan-interface is oper-down
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index number</a> <a href="#">oper-down-reason keyword</a>
<b>Tree</b>	<a href="#">oper-down-reason</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• mac-failed</li> <li>• ingress-hash-failed</li> <li>• egress-hash-failed</li> <li>• other</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **oper-state keyword**

<b>Description</b>	The operational state of the vxlan-interface
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index number</a> <a href="#">oper-state keyword</a>

---

<b>Tree</b>	<a href="#">oper-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• up</li> <li>• down</li> </ul>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

**type** *identityref*

<b>Description</b>	The value of this leaf indicates the context in which the vxlan-interface will be used in.
<b>Context</b>	<a href="#">tunnel-interface name</a> <i>string</i> <a href="#">vxlan-interface index</a> <i>number</i> <a href="#">type</a> <i>identityref</i>
<b>Tree</b>	<a href="#">type</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• routed Indicates subinterface is used in a routed context</li> <li>• bridged Indicates subinterface is used in a bridged context</li> <li>• local-mirror-dest Indicates subinterface is used in a mirroring destination SPAN context</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

## 19 tunnel

```
tunnel
+ vxlan-tunnel
+ statistics
+ admin-state keyword
- in-discarded-packets number
- in-octets number
- in-packets number
- last-clear string
- out-octets number
- out-packets number
- vtep address (ipv4-address | ipv6-address)
- index number
- last-change string
- statistics
- in-discarded-packets number
- in-octets number
- in-packets number
- last-clear string
- out-discarded-packets number
- out-octets number
- out-packets number
```

## 19.1 tunnel Descriptions

### tunnel

<b>Description</b>	This model collects all config and state aspects of the tunnel table in SR Linux.
<b>Context</b>	<a href="#">tunnel</a>
<b>Tree</b>	<a href="#">tunnel</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### vxlan-tunnel

<b>Description</b>	Enter the vxlan-tunnel context
<b>Context</b>	<a href="#">tunnel vxlan-tunnel</a>
<b>Tree</b>	<a href="#">vxlan-tunnel</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### statistics

<b>Description</b>	Container for vxlan-tunnel global statistics.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### admin-state *keyword*

<b>Description</b>	<p>The configured state of the VXLAN statistics on the router</p> <p>The default value is disable. No statistics are collected on VXLAN when the admin-state is disable. When enabled, the router starts collecting VXLAN statistics at both, global and VTEP level, however, the total number of layer-2 subinterfaces is decreased. A change in the configuration of this command</p>
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also resets the statistic counters on layer-2 subinterfaces as a side effect, before resuming the collection of statistics (on these layer-2 subinterfaces).

<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics admin-state</a> <i>keyword</i>
<b>Tree</b>	<a href="#">admin-state</a>
<b>Options</b>	<ul style="list-style-type: none"> <li>• enable</li> <li>• disable</li> </ul>
<b>Configurable</b>	True
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **in-discarded-packets** *number*

<b>Description</b>	The total number of discarded ingress VXLAN packets. Ingress VXLAN packets can be discarded due to one of the following reasons:
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics in-discarded-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **in-octets** *number*

<b>Description</b>	The total sum of ingress VXLAN octets.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics in-octets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **in-packets** *number*

<b>Description</b>	The total sum of ingress VXLAN packets. A packet in this context is an inner frame.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics in-packets</a> <i>number</i>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0



<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**last-clear *string***

<b>Description</b>	Timestamp of the last time the vxlan tunnel counters were cleared.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics last-clear <i>string</i></a>
<b>Tree</b>	<a href="#">last-clear</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**out-octets *number***

<b>Description</b>	The total sum of egress VXLAN octets
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics out-octets <i>number</i></a>
<b>Tree</b>	<a href="#">out-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**out-packets *number***

<b>Description</b>	The total sum of egress VXLAN packets. . A packet in this context is an inner frame.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel statistics out-packets <i>number</i></a>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

**vtep [address](#) (*ipv4-address* | *ipv6-address*)**

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep <a href="#">address</a> (<i>ipv4-address</i>   <i>ipv6-address</i>)</a>

<b>Tree</b>	<a href="#">vtep</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **address** (*ipv4-address* | *ipv6-address*)

<b>Description</b>	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> )
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **index number**

<b>Description</b>	the next-hop-group-id (system allocated) for resolving the VXLAN termination endpoint
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">index number</a>
<b>Tree</b>	<a href="#">index</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **last-change string**

<b>Description</b>	The date and time of the most recent change to the tunnel state
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address</a> ( <i>ipv4-address</i>   <i>ipv6-address</i> ) <a href="#">last-change string</a>
<b>Tree</b>	<a href="#">last-change</a>
<b>String Length</b>	20 to 32
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3L, 7220 IXR-D2L, 7220 IXR-D5, 7220 IXR-D4, 7220 IXR-D3, 7220 IXR-D2

### **statistics**

<b>Description</b>	Container for vxlan-tunnel per VTEP (Vxlan Termination EndPoint) statistics.
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<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address (ipv4-address   ipv6-address) statistics</a>
<b>Tree</b>	<a href="#">statistics</a>
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **in-discarded-packets** *number*

<b>Description</b>	The number of discarded ingress VXLAN packets. Ingress VXLAN packets can be discarded due to one of the following reasons:
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address (ipv4-address   ipv6-address) statistics in-discarded-packets number</a>
<b>Tree</b>	<a href="#">in-discarded-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **in-octets** *number*

<b>Description</b>	The number of octets encapsulated in ingress VXLAN packets.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address (ipv4-address   ipv6-address) statistics in-octets number</a>
<b>Tree</b>	<a href="#">in-octets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **in-packets** *number*

<b>Description</b>	The number of packets encapsulated in ingress VXLAN packets. A packet in this context is an inner frame.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address (ipv4-address   ipv6-address) statistics in-packets number</a>
<b>Tree</b>	<a href="#">in-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **last-clear** *string*

**Description** Timestamp of the last time the vxlan tunnel counters were cleared.

**Context** [tunnel vxlan-tunnel vtep address \(ipv4-address | ipv6-address\) statistics last-clear string](#)

**Tree** [last-clear](#)

**String Length** 20 to 32

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **out-discarded-packets** *number*

**Description** The number of discarded egress VXLAN packets.  
Egress VXLAN packets can be discarded due to one of the following reasons:

**Context** [tunnel vxlan-tunnel vtep address \(ipv4-address | ipv6-address\) statistics out-discarded-packets number](#)

**Tree** [out-discarded-packets](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **out-octets** *number*

**Description** The number of octets encapsulated in egress VXLAN packets.

**Context** [tunnel vxlan-tunnel vtep address \(ipv4-address | ipv6-address\) statistics out-octets number](#)

**Tree** [out-octets](#)

**Default** 0

**Configurable** False

**Platforms** 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

### **out-packets** *number*

**Description** The number of packets encapsulated in egress VXLAN packets.

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	A packet in this context is an inner frame.
<b>Context</b>	<a href="#">tunnel vxlan-tunnel vtep address (ipv4-address   ipv6-address) statistics out-packets number</a>
<b>Tree</b>	<a href="#">out-packets</a>
<b>Default</b>	0
<b>Configurable</b>	False
<b>Platforms</b>	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D2, 7220 IXR-D2L

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