Nokia Service Router Linux

Release 23.10

Data Model Reference

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

Table of contents

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*.

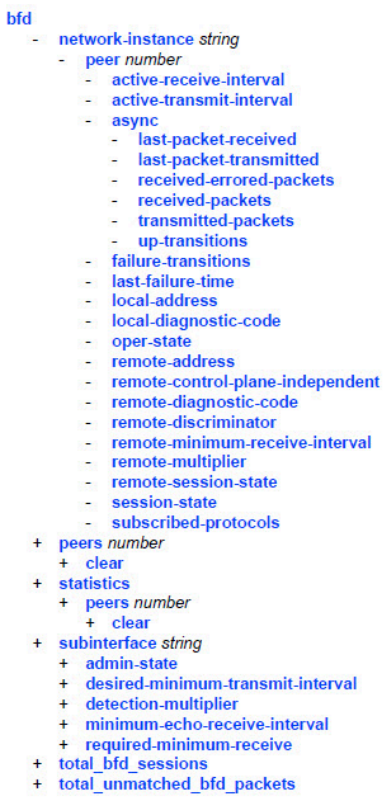
2 Overview

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



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

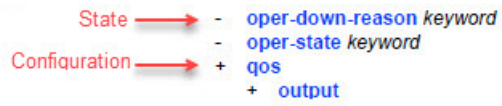
The following transaction and report types are used with the SR Linux:

- 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:

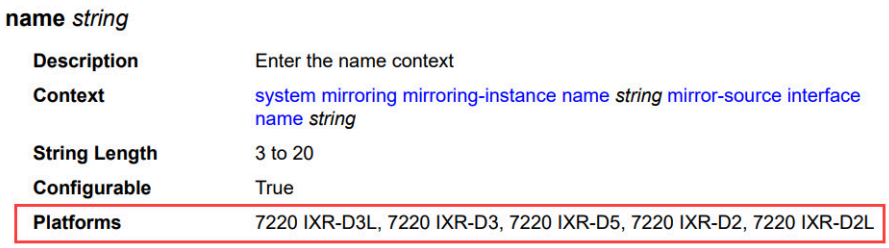
- true (for configuration transactions)
- false (for state transactions)

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 desiginated platforms only



name *string*

Description	Enter the name context
Context	system mirroring mirroring-instance name *string* mirror-source interface name *string*
String Length	3 to 20
Configurable	True
Platforms	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

acl

Description	Top level enclosing container for ACL operational tools
Context	acl
Tree	acl
Configurable	True
Platforms	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
+  cpm-filter
   +  ipv4-filter
      +  entry sequence-id number
         +  action
            +  accept
               +  log boolean
               +  rate-limit
                  +  policer reference
                  +  system-cpu-policer reference
            +  drop
         +  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
   +  ipv6-filter
      +  entry sequence-id number
         +  action
            +  accept
               +  log boolean
               +  rate-limit
                  +  policer reference
                  +  system-cpu-policer reference
            +  drop
         +  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
   +  mac-filter
      +  entry sequence-id number
         +  action
            +  accept
               +  log boolean
               +  rate-limit
                  +  policer reference
                  +  system-cpu-policer reference
            +  drop
         +  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
               +  policer reference
         +  drop
      +  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
            -  policer-stats
               -  in-conforming-octets number
               -  in-conforming-packets number
               -  in-exceeding-octets number
               -  in-exceeding-packets number
               -  out-conforming-octets number
               -  out-conforming-packets number
               -  out-exceeding-octets number
               -  out-exceeding-packets number
         -  last-clear string
      -  tcam-entries
         -  forwarding-complex complex-identifier string
            -  single-instance number
   -  last-clear string
+  ipv6-filter name string
   +  description string
   +  entry sequence-id number
      +  action
         +  accept
            +  forwarding-class (keyword | reference)
            +  log boolean
            +  rate-limit
               +  policer reference
         +  drop
      +  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
            -  policer-stats
               -  in-conforming-octets number
               -  in-conforming-packets number
               -  in-exceeding-octets number
               -  in-exceeding-packets number
               -  out-conforming-octets number
               -  out-conforming-packets number
               -  out-exceeding-octets number
               -  out-exceeding-packets number
         -  last-clear string
      -  tcam-entries
         -  forwarding-complex complex-identifier string
            -  single-instance number
   -  last-clear string
+  mac-filter name string
   +  description string
   +  entry sequence-id number
      +  action
         +  accept
            +  forwarding-class (keyword | reference)
            +  log boolean
            +  rate-limit
               +  policer reference
         +  drop
      +  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
            -  policer-stats
               -  in-conforming-octets number
               -  in-conforming-packets number
```

```
                -  in-exceeding-octets number
                -  in-exceeding-packets number
                -  out-conforming-octets number
                -  out-conforming-packets number
                -  out-exceeding-octets number
                -  out-exceeding-packets number
             -  last-clear string
          -  tcam-entries
             -  forwarding-complex complex-identifier string
                -  single-instance number
   -  last-clear string
   +  statistics-per-entry boolean
   +  subinterface-specific keyword
+  policers
   +  policer name string
      +  max-burst number
      +  peak-rate number
      +  scope keyword
      -  statistics
         -  aggregate
            -  conforming-octets number
            -  conforming-packets number
            -  exceeding-octets number
            -  exceeding-packets number
         -  last-clear string
         -  per-interface
            -  subinterface name string
               -  in-conforming-octets number
               -  in-conforming-packets number
               -  in-exceeding-octets number
               -  in-exceeding-packets number
               -  out-conforming-octets number
               -  out-conforming-packets number
               -  out-exceeding-octets number
               -  out-exceeding-packets number
   +  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
          -  incomplete boolean
          -  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
          -  incomplete boolean
          -  last-clear string
          -  last-match string
          -  matched-packets number
```

```
        -  tcam-entries number
      -  last-clear string
```

3.1 acl Descriptions

acl

Description	Top level container for configuration and operational state related to access control lists (ACLs)
Context	acl
Tree	acl
Configurable	True
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	0 to 65535
Configurable	True
Platforms	Supported on all platforms

action

Description	Container for the actions to be applied to packets matching the CPM filter entry.
Context	acl cpm-filter ipv4-filter entry sequence-id *number* action
Tree	action
Configurable	True
Platforms	Supported on all platforms

accept

Description	Accept matching packets and forward them towards their normal destination
Context	acl cpm-filter ipv4-filter entry sequence-id *number* action accept
Tree	accept
Configurable	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 folllowing information:
Context	acl cpm-filter ipv4-filter entry sequence-id *number* action accept log *boolean*
Tree	log
Default	false
Configurable	True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit

Description	Rate-limit accepted packets
Context	acl cpm-filter ipv4-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 ipv4-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.
Context	acl cpm-filter ipv4-filter entry sequence-id *number* action accept rate-limit system-cpu-policer *reference*
Tree	system-cpu-policer
Reference	acl policers system-cpu-policer name *string*
Configurable	True
Platforms	Supported on all platforms

drop

Description	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
Context	acl cpm-filter ipv4-filter entry sequence-id *number* action drop
Tree	drop

Configurable	True
Platforms	Supported on all platforms

description *string*

Description	Description string for the filter entry
Context	acl cpm-filter ipv4-filter entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

match

Description	Container for the conditions that determine whether a packet matches this entry
Context	acl cpm-filter ipv4-filter entry sequence-id *number* match
Tree	match
Configurable	True
Platforms	Supported on all platforms

destination-ip

Description	Packet matching criteria based on destination IPv4 address
Context	acl cpm-filter ipv4-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 ipv4-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 ipv4-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 IPv4 prefix.
Context	acl cpm-filter ipv4-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 ipv4-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 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.

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 ipv4-filter entry sequence-id *number* match destination-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 ipv4-filter entry sequence-id *number* match destination-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
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- nntp
  Network News Transfer Protocol (NNTP)
- nntps
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- ntp
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- odmr
  On-Demand Mail Relay (ODMR)
- olsr
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- openvpn
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  PIM Auto-RP
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  PKIX Time Stamp Protocol (TSP)
- pop2
  Post Office Protocol, version 2 (POP2)
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  Point-to-Point Tunneling Protocol (PPTP)
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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
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- rmc
  IBM RMC (Remote monitoring and Control) protocol
- rmonitor
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- rpc2portmap
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- sna-gw
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- tcpnethaspsrv

  tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
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  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

start *(number | keyword)*

Description The starting port number to include in the range

Context acl cpm-filter ipv4-filter entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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
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  Authentication Service
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  Bidirectional Forwarding Detection Single Hop
- bfd-echo

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  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

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  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)*

Tree value

Range 0 to 65535

Options

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  Application Configuration Access Protocol
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  Apple Filing Protocol over TCP

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  Bidirectional Forwarding Detection Single Hop
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  BFD Echo
- bftp

  Background File Transfer Program
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  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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- gtp-prime
  GTP prime CDR logging protocol
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  Linux-HA high-availability heartbeat
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  RADIUS accounting protocol
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  Remotefs, RFS Server
- remotecmd

SupportSoft Nexus Remote Command

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- rje
  Remote Job Entry
- rlp
  Resource Location Protocol
- rlzdb
  RLZ DBase
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  IBM RMC (Remote monitoring and Control) protocol
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  rmonitor, Remote Monitor
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  rsync file synchronization protocol
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Configurable True

Platforms Supported on all platforms

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 cpm-filter ipv4-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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 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 cpm-filter ipv4-filter 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 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 acl cpm-filter ipv4-filter entry sequence-id *number* match fragment *boolean*

Tree fragment

Configurable 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
- 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 Supported on all platforms

protocol *(number | keyword)*

Description An IPv4 packet matches this condition if its IP protocol type field matches the specified value

Context acl cpm-filter ipv4-filter 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 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*

Description Match a packet if its source IP address is within the specified IPv4 prefix.

Context acl cpm-filter ipv4-filter entry sequence-id *number* match source-ip prefix *string*

Tree prefix

Configurable True

Platforms Supported on all platforms

source-port

Description 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.

Context acl cpm-filter ipv4-filter entry sequence-id *number* match source-port

Tree source-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 ipv4-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 ipv4-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 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)

- 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 Supported on all platforms

start *(number | keyword)*

Description The starting port number to include in the range

Context acl cpm-filter ipv4-filter entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

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)
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  Cisco Tag Distribution Protocol
- citadel

  Citadel
- clearcase

  ClearCase albd

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  Commerce Applications
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  Remote Procedure Call
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  Kerberos Change/Set password
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  Multicast Source Discovery Protocol
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  MS Exchange Routing
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Message Send Protocol

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  NetBIOS Datagram Service
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  NetBIOS Name Service
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  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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  Network File System (NFS)
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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
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  Remote User Telnet Service (RTelnet)
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  Structured Query Language (SQL) Services
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  Structured Query Language (SQL) Service
- ssh

  Secure Shell Protocol
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  Timeserver
- ups

  Uninterruptible power supply (UPS)
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- xns-time

  Xerox Network Systems (XNS) Time Protocol
- z3950

  ANSI Z39.50

Configurable True

Platforms Supported on all platforms

value *(number | keyword)*

Description A source port number

Context acl cpm-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

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- asf-rmcp

  ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
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  Bootstrap Protocol (BOOTP) Server and DHCP Server
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  ClearCase albd
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  Commerce Applications
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  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)
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  http-mgmt
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  Remote procedure call over Hypertext Transfer Protocol
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  Internet Printing Protocol
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  Internet Protocol Security (IPSec)
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  Internet Relay Chat (IRC)
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  IPSec NAT Traversal
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  iSCSI
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  ISO Transport Service Access Point (TSAP) Class 0 protocol
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  Kerberos authentication system
- kerberos-adm

  Kerberos administration
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  Kerberos login
- kpasswd

  Kerberos Change/Set password
- kshell

  Kerberos Remote shell
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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
- 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 Supported on all platforms

tcp-flags *string*

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

Context acl cpm-filter ipv4-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 ipv4-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 ipv4-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 ipv4-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 ipv4-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.
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics distributed-policer exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	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 cpm-filter ipv4-filter entry sequence-id *number* statistics distributed-policer 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 performed by the user at this level
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-match *string*

Description	The elapsed time since a packet last matched the entry, considering all subinterfaces and all linecards.
Context	acl cpm-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 and all linecards
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics matched-packets *number*
Tree	matched-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

system-cpu-policer

Description	System CPU policer stats for traffic matching the entry.
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics system-cpu-policer
Tree	system-cpu-policer
Configurable	False
Platforms	Supported on all platforms

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 ipv4-filter entry sequence-id *number* statistics system-cpu-policer conforming-octets *number*
Tree	conforming-octets

Default	0
Configurable	False
Platforms	Supported on all platforms

conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics system-cpu-policer conforming-packets *number*
Tree	conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

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.
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics system-cpu-policer exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics system-cpu-policer exceeding-packets *number*
Tree	exceeding-packets
Default	0
Configurable	False
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 cpm-filter ipv4-filter entry sequence-id *number* tcam-entries *number*
Tree	tcam-entries
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	acl cpm-filter ipv4-filter last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

ipv6-filter

Description	Top level container for CPM IPv6 filters
Context	acl cpm-filter ipv6-filter
Tree	ipv6-filter
Configurable	True
Platforms	Supported on all platforms

entry sequence-id *number*

Description	List of filter rules.
Context	acl cpm-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 cpm-filter ipv6-filter entry sequence-id *number*
Range	0 to 65535
Configurable	True
Platforms	Supported on all platforms

action

Description	Container for the actions to be applied to packets matching the CPM filter entry.
Context	acl cpm-filter ipv6-filter entry sequence-id *number* action
Tree	action
Configurable	True
Platforms	Supported on all platforms

accept

Description	Accept matching packets and forward them towards their normal destination
Context	acl cpm-filter ipv6-filter entry sequence-id *number* action accept
Tree	accept
Configurable	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 folllowing information:
Context	acl cpm-filter ipv6-filter entry sequence-id *number* action accept log *boolean*
Tree	log
Default	false
Configurable	True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
Context	acl cpm-filter ipv6-filter entry sequence-id *number* action accept rate-limit system-cpu-policer *reference*
Tree	system-cpu-policer
Reference	acl policers system-cpu-policer name *string*
Configurable	True
Platforms	Supported on all platforms

drop

Description	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
Context	acl cpm-filter ipv6-filter entry sequence-id *number* action drop
Tree	drop

Configurable	True
Platforms	Supported on all platforms

description *string*

Description	Description string for the filter entry
Context	acl cpm-filter ipv6-filter entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	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

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

Context acl cpm-filter ipv6-filter entry sequence-id *number* match destination-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 destination-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
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  netwall, for Emergency Broadcasts
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  new-rwho, new-who
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  Network News Transfer Protocol (NNTP)
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  Network News Transfer Protocol over TLS/SSL (NNTPS)
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  Optimized Link State Routing (OLSR)
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  OpenVPN

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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, version 3 (POP3)
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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
  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)
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  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
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- 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

start *(number | keyword)*

Description The starting port number to include in the range

Context acl cpm-filter ipv6-filter entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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)
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  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 Supported on all platforms

value *(number | keyword)*

Description A destination port number

Context acl cpm-filter ipv6-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
- 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
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  Internet Printing Protocol
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  Internet Protocol Security (IPSec)
- ipx

  Internetwork Packet Exchange (IPX)
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- iris-beep

  IRIS (Internet Registry Information Service) over BEEP
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- netbios-ss
  NetBIOS Session Service
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- radius-acct
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  Remote Mail Checking Protocol
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  Remotefs, RFS Server
- remotecmd

SupportSoft Nexus Remote Command

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  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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  Remote User Telnet Service (RTelnet)
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  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)*

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

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 cpm-filter ipv6-filter 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 cpm-filter ipv6-filter 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 cpm-filter ipv6-filter 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

Configurable True

Platforms Supported on all platforms

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 cpm-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 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*

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 ipv6-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 ipv6-filter entry sequence-id *number* match source-ip mask *string*
Tree	mask
Configurable	True
Platforms	Supported on all platforms

prefix *string*

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

source-port

Description 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.

Context acl cpm-filter ipv6-filter entry sequence-id *number* match source-port

Tree source-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 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
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  AppleShare IP Web Administration
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  AppleTalk Update-Based Routing Protocol
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- bfd

  Bidirectional Forwarding Detection Single Hop
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  Border Gateway Multicast Protocol
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  Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps

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- 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
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- 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)
- 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
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  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) Service
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  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

start *(number | keyword)*

Description The starting port number to include in the range

Context acl cpm-filter ipv6-filter entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

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
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- ieee-mms-ssl
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- imap
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- isakmp

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  IPSec NAT Traversal
- iscsi

  iSCSI
- iso-tsap

  ISO Transport Service Access Point (TSAP) Class 0 protocol
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  Kerberos Remote shell
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- login
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  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
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  NetBIOS Name Service
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Remote Job Entry

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- z3950

  ANSI Z39.50

Configurable True

Platforms Supported on all platforms

value *(number | keyword)*

Description A source port number

Context acl cpm-filter ipv6-filter entry sequence-id *number* match source-port value *(number | keyword)*

Tree value

Range 0 to 65535

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  Apple Filing Protocol over TCP
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  ASF Remote Management and Control Protocol & IPMI Remote Management Protocol
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  Authentication Service
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  Bidirectional Forwarding Detection Single Hop
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  Background File Transfer Program

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  Bootstrap Protocol (BOOTP) Client and DHCP Client
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  CCSO Nameserver
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- cisco-tdp
  Cisco Tag Distribution Protocol
- citadel
  Citadel
- clearcase
  ClearCase albd
- commerce
  Commerce Applications
- courier
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- ha-cluster
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- hostname
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- hp-alarm-mgr

  HP data alarm manager
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  Hypertext Transfer Protocol
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  FileMaker Web Sharing (HTTP Alternate)
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  Remote procedure call over Hypertext Transfer Protocol
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  BFD session over each LAG member link

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  Monitor
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- 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 &, | 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.
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics distributed-policer exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	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 cpm-filter ipv6-filter entry sequence-id *number* statistics distributed-policer 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 performed by the user at this level
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-match *string*

Description	The elapsed time since a packet last matched the entry, considering all subinterfaces and all linecards.
Context	acl cpm-filter ipv6-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 ipv6-filter entry sequence-id *number* statistics matched-packets *number*
Tree	matched-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

system-cpu-policer

Description	System CPU policer stats for traffic matching the entry.
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics system-cpu-policer
Tree	system-cpu-policer
Configurable	False
Platforms	Supported on all platforms

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 system-cpu-policer conforming-octets *number*
Tree	conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

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 system-cpu-policer conforming-packets *number*
Tree	conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

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.
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics system-cpu-policer exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics system-cpu-policer exceeding-packets *number*
Tree	exceeding-packets
Default	0
Configurable	False
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 cpm-filter ipv6-filter entry sequence-id *number* tcam-entries *number*

Tree	tcam-entries
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	acl cpm-filter ipv6-filter last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

mac-filter

Description	Top level container for CPM MAC filter
Context	acl cpm-filter mac-filter
Tree	mac-filter
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

entry sequence-id *number*

Description	List of filter rules.
Context	acl cpm-filter mac-filter entry sequence-id *number*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 mac-filter entry sequence-id *number*
Range	0 to 65535

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

action

Description	Container for the actions to be applied to packets matching the CPM filter entry.
Context	acl cpm-filter mac-filter entry sequence-id *number* action
Tree	action
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

accept

Description	Accept matching packets and forward them towards their normal destination
Context	acl cpm-filter mac-filter entry sequence-id *number* action accept
Tree	accept
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 folllowing information:
Context	acl cpm-filter mac-filter entry sequence-id *number* action accept log *boolean*
Tree	log
Default	false
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit

Description	Rate-limit accepted packets
Context	acl cpm-filter mac-filter entry sequence-id *number* action accept rate-limit
Tree	rate-limit
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

policer *reference*

Description	Reference to a policer
Context	acl cpm-filter mac-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.
Context	acl cpm-filter mac-filter entry sequence-id *number* action accept rate-limit system-cpu-policer *reference*
Tree	system-cpu-policer
Reference	acl policers system-cpu-policer name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

drop

Description	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
Context	acl cpm-filter mac-filter entry sequence-id *number* action drop
Tree	drop
Configurable	True

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

description *string*

Description	Description string for the filter entry
Context	acl cpm-filter mac-filter entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

match

Description	Container for the conditions that determine whether an Ethernet frame matches this entry
Context	acl cpm-filter mac-filter entry sequence-id *number* match
Tree	match
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

ethertype *(string | keyword)*

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

Context acl cpm-filter mac-filter entry sequence-id *number* match ethertype *(string | keyword)*

Tree ethertype

Options

- ipv4

  Internet Protocol version 4. Ethertype 0x0800.
- arp

  Address Resolution Protocol. Ethertype 0x0806.
- ipv6

  Internet Protocol version 6. Ethertype 0x86DD.
- flow-control

  Ethernet flow control PAUSE frames. Ethertype 0x8808
- lacp

  LACP. Ethertype 0x8809.
- mpls-unicast

  MPLS unicast. Ethertype 0x8847.
- mpls-multicast

  MPLS multicast. Ethertype 0x8848.
- pppoe-discovery

PPPoE discovery. Ethertype 0x8863.

- pppoe-session

  PPPoE session. Ethertype 0x8864.
- 8021x-authentication

  802.1x authentication (EAP). Ethertype 0x888E.
- lldp

  Link Layer Discovery Protocol. Ethertype 0x88CC.
- macsec

  IEEE 802.1AE MAC security. Ethertype 0x88E5.
- pbb

  Provider Backbone Bridging. Ethertype 0x88E7.
- ptp

  Precision Time Protocol. Ethertype 0x88F7.
- eth-oam

  IEEE 802.1ag CFM and ITU-T Y.1731 OAM. Ethertype 0x8902.
- fcoe

  Fibre Channel over Ethernet. Ethertype 0x8906.
- fcoe-initialization

  Fibre Channel over Ethernet Initialization Protocol. Ethertype 0x8914.
- roce

  RDMA over Converged Ethernet. Ethertype 0x8915.

Configurable True

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

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

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

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

vlan

Description Ethernet frame matching criteria based on VLAN tags

Context acl cpm-filter mac-filter entry sequence-id *number* match vlan

Tree vlan

Configurable True

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

outermost-vlan-id

Description Ethernet frame matching criteria based on the outermost VLAN ID found before the subinterface-defining VLAN tag (if any) is removed.

Context acl cpm-filter mac-filter entry sequence-id *number* match vlan outermost-vlan-id

Tree outermost-vlan-id

Configurable True

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

none

Description	When configured, only untagged frames are matched.
Context	acl cpm-filter mac-filter entry sequence-id *number* match vlan outermost-vlan-id none
Tree	none
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

operator *keyword*

Description	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
Context	acl cpm-filter mac-filter entry sequence-id *number* match vlan outermost-vlan-id operator *keyword*
Tree	operator
Options	• le Less than or equal. • ge Greater than or equal. • eq Equal to.
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

value *number*

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

statistics

Description	Statistics container for packets matching the CPM-filter entry
Context	acl cpm-filter mac-filter entry sequence-id *number* statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

distributed-policer

Description	Distributed policer stats for traffic matching the entry.
Context	acl cpm-filter mac-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 mac-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 mac-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.
Context	acl cpm-filter mac-filter entry sequence-id *number* statistics distributed-policer exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	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 cpm-filter mac-filter entry sequence-id *number* statistics distributed-policer 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 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

system-cpu-policer

Description	System CPU policer stats for traffic matching the entry.
Context	acl cpm-filter mac-filter entry sequence-id *number* statistics system-cpu-policer
Tree	system-cpu-policer
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 mac-filter entry sequence-id *number* statistics system-cpu-policer conforming-octets *number*
Tree	conforming-octets
Default	0
Configurable	False

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

conforming-packets *number*

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

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.
Context	acl cpm-filter mac-filter entry sequence-id *number* statistics system-cpu-policer exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

exceeding-packets *number*

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

tcam-entries *number*

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

last-clear *string*

Description	Time of the last clear command performed by the user at this level
Context	acl cpm-filter mac-filter last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics-per-entry *boolean*

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

datapath-programming

Description	Container to represent the progress of ACL datapath programming
Context	acl datapath-programming
Tree	datapath-programming
Configurable	False
Platforms	Supported on all platforms

forwarding-complex slot-id *number* complex-id *number*

Description	List of forwarding complexes that are currently installed and online
Context	acl datapath-programming forwarding-complex slot-id *number* complex-id *number*
Tree	forwarding-complex
Configurable	False
Platforms	Supported on all platforms

slot-id *number*

Description	The slot id
Context	acl datapath-programming forwarding-complex slot-id *number* complex-id *number*
Configurable	False
Platforms	Supported on all platforms

complex-id *number*

Description	The complex id
Context	acl datapath-programming forwarding-complex slot-id *number* complex-id *number*
Range	0 to 1
Configurable	False
Platforms	Supported on all platforms

last-completed-timestamp *string*

Description	The date and time when the forwarding complex last completed all datapath programming related to prior ACL configuration changes.
Context	acl datapath-programming forwarding-complex slot-id *number* complex-id *number* last-completed-timestamp *string*
Tree	last-completed-timestamp
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

programming-complete *boolean*

Description	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
Context	acl datapath-programming forwarding-complex slot-id *number* complex-id *number* programming-complete *boolean*
Tree	programming-complete
Configurable	False
Platforms	Supported on all platforms

egress-mac-filtering *boolean*

Description	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. 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.
Context	acl egress-mac-filtering *boolean*
Tree	egress-mac-filtering
Default	false
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv4-filter name *string*

Description	List of IPv4 filter policies
Context	acl ipv4-filter name *string*
Tree	ipv4-filter
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the IPv4 filter policy.
Context	acl ipv4-filter name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

description *string*

Description	Description string for the IPv4 filter policy
Context	acl ipv4-filter name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

entry sequence-id *number*

Description	List of filter rules.
Context	acl ipv4-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 ipv4-filter name *string* entry sequence-id *number*
Range	0 to 65535
Configurable	True
Platforms	Supported on all platforms

action

Description	Container for the actions to be applied to packets matching the filter entry.

Context	acl ipv4-filter name *string* entry sequence-id *number* action
Tree	action
Configurable	True
Platforms	Supported on all platforms

accept

Description	Accept matching packets and forward them towards their normal destination
Context	acl ipv4-filter name *string* entry sequence-id *number* action accept
Tree	accept
Configurable	True
Platforms	Supported on all platforms

forwarding-class *(keyword | reference)*

Description	The QoS forwarding class to which the packet is mapped
Context	acl ipv4-filter name *string* entry sequence-id *number* action accept forwarding-class *(keyword | reference)*
Tree	forwarding-class
Options	• fc0 System default forwarding-class name for the FC with index 0 • fc1 System default forwarding-class name for the FC with index 1 • fc2 System default forwarding-class name for the FC with index 2 • fc3 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

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 folllowing information:

Context acl ipv4-filter name *string* entry sequence-id *number* action accept log *boolean*

Tree log

Default false

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit

Description Rate-limit accepted packets

Context	acl ipv4-filter name *string* entry sequence-id *number* action accept rate-limit
Tree	rate-limit
Configurable	True
Platforms	Supported on all platforms except 7220

policer *reference*

Description	Reference to a policer
Context	acl ipv4-filter name *string* 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

drop

Description	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
Context	acl ipv4-filter name *string* entry sequence-id *number* action drop
Tree	drop
Configurable	True
Platforms	Supported on all platforms

description *string*

Description	Description string for the filter entry
Context	acl ipv4-filter name *string* entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

match

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

Context acl ipv4-filter name *string* entry sequence-id *number* match

Tree match

Configurable True

Platforms Supported on all platforms

destination-ip

Description Packet matching criteria based on destination IPv4 address

Context acl ipv4-filter name *string* 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 ipv4-filter name *string* 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 ipv4-filter name *string* 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 IPv4 prefix.

Context acl ipv4-filter name *string* 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 ipv4-filter name *string* 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 ipv4-filter name *string* 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

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

Context acl ipv4-filter name *string* entry sequence-id *number* match destination-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 ipv4-filter name *string* entry sequence-id *number* match destination-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)
- 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 Supported on all platforms

start *(number | keyword)*

Description The starting port number to include in the range

Context acl ipv4-filter name *string* entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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
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  AppleTalk Update-Based Routing Protocol
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  Authentication Service
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  Bidirectional Forwarding Detection Single Hop
- bfd-echo

  BFD Echo
- bftp

  Background File Transfer Program
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  Border Gateway Multicast Protocol
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  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
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  DHCPv6 Client
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  Remote Process Execution (Rexec)
- finger

Finger protocol

- ftp
  File Transfer Protocol control
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  Monitor
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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
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- rtelnet
  Remote User Telnet Service (RTelnet)
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  Timeserver

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  Xerox Network Systems (XNS) Time Protocol
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  ANSI Z39.50

Configurable True

Platforms Supported on all platforms

value *(number | keyword)*

Description A destination port number

Context acl ipv4-filter name *string* entry sequence-id *number* match destination-port value *(number | keyword)*

Tree value

Range 0 to 65535

Options

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  Microsoft Directory Services
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  Monitor
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  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
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  Multicast Source Discovery Protocol
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  MS Exchange Routing
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- netrjs-2

NETRJS protocol

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  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
- netwall
  netwall, for Emergency Broadcasts
- new-rwho
  new-rwho, new-who
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  Network News Transfer Protocol over TLS/SSL (NNTPS)
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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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  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
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- 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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  Structured Query Language (SQL) Services
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  tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
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- 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)*

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 ipv4-filter name *string* 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 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 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	acl ipv4-filter name *string* entry sequence-id *number* match fragment *boolean*
Tree	fragment
Configurable	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 ipv4-filter name *string* 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 ipv4-filter name *string* 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 ipv4-filter name *string* 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 • 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 Supported on all platforms

protocol *(number | keyword)*

Description An IPv4 packet matches this condition if its IP protocol type field matches the specified value

Context acl ipv4-filter 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 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.
Context	acl ipv4-filter name *string* entry sequence-id *number* match source-ip mask *string*
Tree	mask
Configurable	True
Platforms	Supported on all platforms

prefix *string*

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

source-port

Description	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.
Context	acl ipv4-filter name *string* entry sequence-id *number* match source-port

Tree	source-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 ipv4-filter name *string* 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 ipv4-filter name *string* 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 ipv4-filter 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
  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 Supported on all platforms

start *(number | keyword)*

Description The starting port number to include in the range

Context acl ipv4-filter name *string* entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

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
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  Daytime Protocol
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  DHCPv6 Client
- dhcpv6-server
  DHCPv6 Server

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  DHCP Failover Protocol
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  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
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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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  Message posting protocol (MPP)
- mssql-m
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- mssql-s
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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
- netnews
  Netnews
- netwall
  netwall, for Emergency Broadcasts
- new-rwho
  new-rwho, new-who
- nfs
  Network File System (NFS)
- nntp
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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)
- sgmp
  Simple Gateway Monitoring Protocol (SGMP)
- silc
  Secure Internet Live Conferencing (SILC)
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- snmp-trap
  SNMP Traps
- snpp
  Simple Network Paging Protocol (SNPP)
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- sql-svcs
  Structured Query Language (SQL) Services
- sql
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- ssh
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  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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  tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
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  Uninterruptible power supply (UPS)
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  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 source port number

Context acl ipv4-filter 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
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  Authentication Service
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  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
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  Internet Security Association and Key Management Protocol (ISAKMP) / Internet Key Exchange (IKE)
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  IPSec NAT Traversal
- iscsi

  iSCSI
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  ISO Transport Service Access Point (TSAP) Class 0 protocol
- kerberos

  Kerberos authentication system
- kerberos-adm

  Kerberos administration

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  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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  Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
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  Label Distribution Protocol
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  Link Management Protocol (LMP)
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  rlogin (TCP) or Who (UDP)
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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 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 Supported on all platforms

tcp-flags *string*

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

Context acl ipv4-filter name *string* entry sequence-id *number* match tcp-flags *string*

Tree tcp-flags

Configurable True

Platforms Supported on all platforms

statistics

Description Container for per-entry statistics

Context acl ipv4-filter name *string* entry sequence-id *number* statistics

Tree statistics

Configurable False

Platforms	Supported on all platforms

aggregate

Description	Container for aggregated per-entry statistics (summed across all interfaces and all linecards).
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate
Tree	aggregate
Configurable	False
Platforms	Supported on all platforms

in-last-match *string*

Description	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
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate in-last-match *string*
Tree	in-last-match
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

in-matched-packets *number*

Description	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
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate in-matched-packets *number*
Tree	in-matched-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-last-match *string*

Description	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
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate 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 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
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate out-matched-packets *number*
Tree	out-matched-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

policer-stats

Description	Enter the policer-stats context
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats
Tree	policer-stats
Configurable	False
Platforms	Supported on all platforms

in-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 ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-conforming-octets *number*

Tree	in-conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-conforming-packets *number*
Tree	in-conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-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.
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-exceeding-octets *number*
Tree	in-exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-exceeding-packets *number*
Tree	in-exceeding-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-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 ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-conforming-octets *number*
Tree	out-conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-conforming-packets *number*
Tree	out-conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-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.
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-exceeding-octets *number*
Tree	out-exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-exceeding-packets *number*

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

Context	acl ipv4-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-exceeding-packets *number*
Tree	out-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 or a higher level
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

tcam-entries

Description	Information about the TCAM entries used to implement the ACL entry
Context	acl ipv4-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 ipv4-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 ipv4-filter name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
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.
Context	acl ipv4-filter name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string* single-instance *number*
Tree	single-instance
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	acl ipv4-filter name *string* last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

ipv6-filter name *string*

Description	List of IPv6 filter policies
Context	acl ipv6-filter name *string*
Tree	ipv6-filter
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the IPv6 filter policy.
Context	acl ipv6-filter name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

description *string*

Description	Description string for the IPv6 filter policy
Context	acl ipv6-filter name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

entry sequence-id *number*

Description	List of filter rules.
Context	acl ipv6-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 ipv6-filter name *string* entry sequence-id *number*
Range	0 to 65535
Configurable	True
Platforms	Supported on all platforms

action

Description Container for the actions to be applied to packets matching the filter entry.

Context acl ipv6-filter name *string* entry sequence-id *number* action

Tree action

Configurable True

Platforms Supported on all platforms

accept

Description Accept matching packets and forward them towards their normal destination

Context acl ipv6-filter name *string* entry sequence-id *number* action accept

Tree accept

Configurable True

Platforms Supported on all platforms

forwarding-class *(keyword | reference)*

Description The QoS forwarding class to which the packet is mapped

Context acl ipv6-filter name *string* entry sequence-id *number* action accept forwarding-class *(keyword | reference)*

Tree forwarding-class

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

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 folllowing information:

Context acl ipv6-filter name *string* entry sequence-id *number* action accept log *boolean*

Tree log

Default false

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit

Description	Rate-limit accepted packets
Context	acl ipv6-filter name *string* entry sequence-id *number* action accept rate-limit
Tree	rate-limit
Configurable	True
Platforms	Supported on all platforms except 7220

policer *reference*

Description	Reference to a policer
Context	acl ipv6-filter name *string* 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

drop

Description	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
Context	acl ipv6-filter name *string* entry sequence-id *number* action drop
Tree	drop
Configurable	True
Platforms	Supported on all platforms

description *string*

Description	Description string for the filter entry
Context	acl ipv6-filter name *string* entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

match

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

Context acl ipv6-filter name *string* 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 ipv6-filter name *string* 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 ipv6-filter name *string* 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 ipv6-filter name *string* 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 ipv6-filter name *string* 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 ipv6-filter name *string* 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 ipv6-filter name *string* 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

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

Context acl ipv6-filter name *string* entry sequence-id *number* match destination-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 ipv6-filter name *string* entry sequence-id *number* match destination-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)
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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
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  Internet Message Access Protocol over TLS/SSL
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  Internet Printing Protocol
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  IRIS (Internet Registry Information Service) over BEEP
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  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 Supported on all platforms

start *(number | keyword)*

Description The starting port number to include in the range

Context acl ipv6-filter name *string* entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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
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  Timeserver

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  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 ipv6-filter name *string* 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

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  Background File Transfer Program
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- bootps
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  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
  DHCPv6 Server

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  DHCP Failover Protocol
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  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 data alarm manager
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  NETRJS protocol
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NETRJS protocol

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- netrjs-4
  NETRJS protocol
- netbios-data
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  NetBIOS Name Service
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  NetBIOS Session Service
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  Netnews
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  new-rwho, new-who
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  SupportSoft Nexus Remote Command
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  RLZ DBase
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  Active Users (systat service)
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  TACACS Login Host protocol
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  Talk
- tcpmux
  TCP Port Service Multiplexer (TCPMUX)
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  tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
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  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

Configurable True

Platforms Supported on all platforms

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 ipv6-filter name *string* 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Configurable True

Platforms Supported on all platforms

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 ipv6-filter name *string* 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 Supported on all platforms

source-ip

Description Packet matching criteria based on source IPv6 address

Context acl ipv6-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 ipv6-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.
Context	acl ipv6-filter name *string* entry sequence-id *number* match source-ip mask *string*
Tree	mask
Configurable	True
Platforms	Supported on all platforms

prefix *string*

Description	Match a packet if its source IP address is within the specified IPv6 prefix.
Context	acl ipv6-filter name *string* entry sequence-id *number* match source-ip prefix *string*
Tree	prefix
Configurable	True
Platforms	Supported on all platforms

source-port

Description	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.
Context	acl ipv6-filter name *string* entry sequence-id *number* match source-port
Tree	source-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 ipv6-filter name *string* 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 ipv6-filter name *string* 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 ipv6-filter 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
  FileMaker Web Sharing (HTTP Alternate)
- http-mgmt
  http-mgmt
- http-rpc
  Remote procedure call over Hypertext Transfer Protocol
- https
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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
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  Internet Message Access Protocol over TLS/SSL
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  Internet Printing Protocol
- ipsec

  Internet Protocol Security (IPSec)
- ipx

  Internetwork Packet Exchange (IPX)
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- 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
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  Kerberos Change/Set password
- kshell

  Kerberos Remote shell
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Lightweight Directory Access Protocol (LDAP)

- ldaps
  Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
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- lmp
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- mobile-ip
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  Monitor
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  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
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- netbios-ss
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- netnews
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- 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)
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  Quote of the Day (QOTD)
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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
- 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)

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  Structured Query Language (SQL) Services
- sql

  Structured Query Language (SQL) Service
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  Secure Shell Protocol
- submission

  Email message submission (SMTP)
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  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

start *(number | keyword)*

Description The starting port number to include in the range

Context acl ipv6-filter name *string* entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

Range 0 to 65535

Options

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- rpc2portmap

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- rsync

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- xns-mail
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- xns-time
  Xerox Network Systems (XNS) Time Protocol
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Configurable True

Platforms Supported on all platforms

value *(number | keyword)*

Description A source port number

Context acl ipv6-filter name *string* entry sequence-id *number* match source-port value *(number | keyword)*

Tree value

Range 0 to 65535

Options

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  Microsoft Directory Services
- mobile-ip

  Mobile IP Agent
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  Monitor

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  NetBIOS Name Service
- netbios-ss
  NetBIOS Session Service
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  netwall, for Emergency Broadcasts

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  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 &, | 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

Description Container for per-entry statistics

Context acl ipv6-filter name *string* entry sequence-id *number* statistics

Tree statistics

Configurable False

Platforms	Supported on all platforms

aggregate

Description	Container for aggregated per-entry statistics (summed across all interfaces and all linecards).
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate
Tree	aggregate
Configurable	False
Platforms	Supported on all platforms

in-last-match *string*

Description	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
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate in-last-match *string*
Tree	in-last-match
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

in-matched-packets *number*

Description	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
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate in-matched-packets *number*
Tree	in-matched-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-last-match *string*

Description	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
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate 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 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
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate out-matched-packets *number*
Tree	out-matched-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

policer-stats

Description	Enter the policer-stats context
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats
Tree	policer-stats
Configurable	False
Platforms	Supported on all platforms

in-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 ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-conforming-octets *number*

Tree	in-conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-conforming-packets *number*
Tree	in-conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-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.
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-exceeding-octets *number*
Tree	in-exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-exceeding-packets *number*
Tree	in-exceeding-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-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 ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-conforming-octets *number*
Tree	out-conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-conforming-packets *number*
Tree	out-conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-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.
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-exceeding-octets *number*
Tree	out-exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-exceeding-packets *number*

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

Context	acl ipv6-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-exceeding-packets *number*
Tree	out-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 or a higher level
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
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

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.
Context	acl ipv6-filter name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string* single-instance *number*
Tree	single-instance
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	acl ipv6-filter name *string* last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

mac-filter name *string*

Description	List of MAC ACL policies
Context	acl mac-filter name *string*
Tree	mac-filter
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

name *string*

Description	Name of the MAC ACL policy.
Context	acl mac-filter name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

description *string*

Description	Description string for the MAC ACL policy
Context	acl mac-filter name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

entry sequence-id *number*

Description	List of filter rules.
Context	acl mac-filter name *string* entry sequence-id *number*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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*
Range	0 to 65535
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

action

Description Container for the actions to be applied to packets matching the filter entry.

Context acl mac-filter name *string* entry sequence-id *number* action

Tree action

Configurable True

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

accept

Description Accept matching packets and forward them towards their normal destination

Context acl mac-filter name *string* entry sequence-id *number* action accept

Tree accept

Configurable True

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

forwarding-class *(keyword | reference)*

Description The QoS forwarding class to which the packet is mapped

Context acl mac-filter name *string* entry sequence-id *number* action accept forwarding-class *(keyword | reference)*

Tree forwarding-class

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

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 folllowing information:

Context acl mac-filter name *string* entry sequence-id *number* action accept log *boolean*

Tree log

Default false

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit

Description	Rate-limit accepted packets
Context	acl mac-filter name *string* entry sequence-id *number* action accept rate-limit
Tree	rate-limit
Configurable	True
Platforms	Supported on all platforms except 7220

policer *reference*

Description	Reference to a policer
Context	acl mac-filter name *string* 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

drop

Description	Drop matching packets. Dropped IP packets do not result in sending ICMP messages back to the source
Context	acl mac-filter name *string* entry sequence-id *number* action drop
Tree	drop
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

description *string*

Description	Description string for the filter entry
Context	acl mac-filter name *string* entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True

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

match

Description	Container for the conditions that determine whether an Ethernet frame matches this entry
Context	acl mac-filter name *string* entry sequence-id *number* match
Tree	match
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-mac

Description	Ethernet frame matching criteria based on destination MAC address
Context	acl mac-filter name *string* entry sequence-id *number* match destination-mac
Tree	destination-mac
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Match an Ethernet frame if its destination MAC address logically anded with the mask equals this MAC address.
Context	acl mac-filter name *string* entry sequence-id *number* match destination-mac address *string*
Tree	address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mask *string*

Description	Match an Ethernet frame if its destination MAC address logically anded with the mask equals the configured MAC address.
Context	acl mac-filter name *string* entry sequence-id *number* match destination-mac mask *string*

Tree	mask
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ethertype *(string | keyword)*

Description	An Ethernet frame matches this condition if its ethertype value (after 802.1Q VLAN tags) matches the specified value
Context	acl mac-filter name *string* entry sequence-id *number* match ethertype *(string | keyword)*
Tree	ethertype
Options	• ipv4 Internet Protocol version 4. Ethertype 0x0800. • arp Address Resolution Protocol. Ethertype 0x0806. • ipv6 Internet Protocol version 6. Ethertype 0x86DD. • flow-control Ethernet flow control PAUSE frames. Ethertype 0x8808 • lacp LACP. Ethertype 0x8809. • mpls-unicast MPLS unicast. Ethertype 0x8847. • mpls-multicast MPLS multicast. Ethertype 0x8848. • pppoe-discovery PPPoE discovery. Ethertype 0x8863. • pppoe-session PPPoE session. Ethertype 0x8864. • 8021x-authentication 802.1x authentication (EAP). Ethertype 0x888E. • lldp Link Layer Discovery Protocol. Ethertype 0x88CC. • macsec IEEE 802.1AE MAC security. Ethertype 0x88E5. • pbb

Provider Backbone Bridging. Ethertype 0x88E7.

- ptp

  Precision Time Protocol. Ethertype 0x88F7.
- eth-oam

  IEEE 802.1ag CFM and ITU-T Y.1731 OAM. Ethertype 0x8902.
- fcoe

  Fibre Channel over Ethernet. Ethertype 0x8906.
- fcoe-initialization

  Fibre Channel over Ethernet Initialization Protocol. Ethertype 0x8914.
- roce

  RDMA over Converged Ethernet. Ethertype 0x8915.

Configurable True

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

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

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

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

vlan

Description Ethernet frame matching criteria based on VLAN tags

Context acl mac-filter name *string* entry sequence-id *number* match vlan

Tree vlan

Configurable True

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

outermost-vlan-id

Description Ethernet frame matching criteria based on the outermost VLAN ID found before the subinterface-defining VLAN tag (if any) is removed.

Context acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id

Tree outermost-vlan-id

Configurable True

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

none

Description When configured, only untagged frames are matched.

Context acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id none

Tree none

Configurable True

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

operator *keyword*

Description Comparison operator

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

Context acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id operator *keyword*

Tree operator

Options

- le

  Less than or equal.

- ge

  Greater than or equal.

- eq

  Equal to.

Configurable True

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

range

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

Context acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id range

Tree range

Configurable True

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

end *number*

Description The ending VLAN ID to include in the range

Context acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id range end *number*

Tree end

Range 0 to 4095

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

start *number*

Description	The starting VLAN ID to include in the range
Context	acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id range start *number*
Tree	start
Range	0 to 4095
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

value *number*

Description	A VLAN ID number A value of zero is used to match priority-tagged 802.1Q frames.
Context	acl mac-filter name *string* entry sequence-id *number* match vlan outermost-vlan-id value *number*
Tree	value
Range	0 to 4095
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Container for per-entry statistics
Context	acl mac-filter name *string* entry sequence-id *number* statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

aggregate

Description	Container for aggregated per-entry statistics (summed across all interfaces and all linecards).
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate
Tree	aggregate
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-last-match *string*

Description	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
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate in-last-match *string*
Tree	in-last-match
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-matched-packets *number*

Description	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
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate in-matched-packets *number*
Tree	in-matched-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

out-last-match *string*

Description	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
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate out-last-match *string*
Tree	out-last-match
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

out-matched-packets *number*

Description	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
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate out-matched-packets *number*
Tree	out-matched-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

policer-stats

Description	Enter the policer-stats context
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats
Tree	policer-stats
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-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 mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-conforming-octets *number*
Tree	in-conforming-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-conforming-packets *number*
Tree	in-conforming-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-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.
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-exceeding-octets *number*
Tree	in-exceeding-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats in-exceeding-packets *number*
Tree	in-exceeding-packets

Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

out-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 mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-conforming-octets *number*
Tree	out-conforming-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

out-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-conforming-packets *number*
Tree	out-conforming-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

out-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.
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-exceeding-octets *number*
Tree	out-exceeding-octets
Default	0
Configurable	False

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

out-exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl mac-filter name *string* entry sequence-id *number* statistics aggregate policer-stats out-exceeding-packets *number*
Tree	out-exceeding-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Time of the last clear command performed by the user at this level or a higher level
Context	acl mac-filter name *string* entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tcam-entries

Description	Information about the TCAM entries used to implement the ACL entry
Context	acl mac-filter name *string* entry sequence-id *number* tcam-entries
Tree	tcam-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

forwarding-complex complex-identifier *string*

Description	List of forwarding complexes in the system
Context	acl mac-filter name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
Tree	forwarding-complex
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

complex-identifier *string*

Description	A forwarding complex in the format (slot-number,complex-number).
Context	acl mac-filter name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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.
Context	acl mac-filter name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string* single-instance *number*
Tree	single-instance
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Time of the last clear command performed by the user at this level
Context	acl mac-filter name *string* last-clear *string*
Tree	last-clear
String Length	20 to 32

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics-per-entry *boolean*

Description	Collect statistics for each entry of the ACL The exact set of statistics depend on the subinterface-specific mode
Context	acl mac-filter name *string* statistics-per-entry *boolean*
Tree	statistics-per-entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

subinterface-specific *keyword*

Description	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
Context	acl mac-filter name *string* subinterface-specific *keyword*
Tree	subinterface-specific
Default	disabled
Options	• disabled • input-only • output-only • input-and-output
Configurable	True

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

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 subintreface 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

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 800000000
Units	kbps
Configurable	True
Platforms	Supported on all platforms except 7220

scope *keyword*

Description	Controls the instantiation of the policer between subinterfaces global: policer is instantiated per direction and shared between ACL, requires filter subinterface-specific disabled subinterface: policer is instantiated per subinterface and per direction, requires filter subinterface-specific input-and-ouput
Context	acl policers policer name *string* scope *keyword*
Tree	scope
Default	global
Options	• global • subinterface
Configurable	True
Platforms	7220 IXR-D2L, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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.
Context	acl policers policer name *string* statistics aggregate
Tree	aggregate
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 policers policer name *string* statistics aggregate 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 policers policer name *string* statistics aggregate 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.

Context	acl policers policer name *string* statistics aggregate exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	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

per-interface

Description	Enter the per-interface context
Context	acl policers policer name *string* statistics per-interface
Tree	per-interface
Configurable	False
Platforms	Supported on all platforms except 7220

subinterface name *string*

Description	Policer entry-specific=false, scope=subinterface and ACL subinterface-specific=input-and-output
Context	acl policers policer name *string* statistics per-interface subinterface name *string*
Tree	subinterface
Configurable	False
Platforms	Supported on all platforms except 7220

name *string*

Description	Reference to a subinterface.
Context	acl policers policer name *string* statistics per-interface subinterface name *string*
Configurable	False
Platforms	Supported on all platforms except 7220

in-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 policers policer name *string* statistics per-interface subinterface name *string* in-conforming-octets *number*
Tree	in-conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms except 7220

in-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl policers policer name *string* statistics per-interface subinterface name *string* in-conforming-packets *number*
Tree	in-conforming-packets
Default	0
Configurable	False

Platforms	Supported on all platforms except 7220

in-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.
Context	acl policers policer name *string* statistics per-interface subinterface name *string* in-exceeding-octets *number*
Tree	in-exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms except 7220

in-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 per-interface subinterface name *string* in-exceeding-packets *number*
Tree	in-exceeding-packets
Default	0
Configurable	False
Platforms	Supported on all platforms except 7220

out-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 policers policer name *string* statistics per-interface subinterface name *string* out-conforming-octets *number*
Tree	out-conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms except 7220

out-conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl policers policer name *string* statistics per-interface subinterface name *string* out-conforming-packets *number*
Tree	out-conforming-packets
Default	0
Configurable	False
Platforms	Supported on all platforms except 7220

out-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.
Context	acl policers policer name *string* statistics per-interface subinterface name *string* out-exceeding-octets *number*
Tree	out-exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms except 7220

out-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 per-interface subinterface name *string* out-exceeding-packets *number*
Tree	out-exceeding-packets
Default	0
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*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

entry-specific *boolean*

Description	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.
Context	acl policers system-cpu-policer name *string* entry-specific *boolean*
Tree	entry-specific
Default	false
Configurable	True
Platforms	Supported on all platforms

max-packet-burst *number*

Description	The maximum depth of the policer bucket in number of packets
Context	acl policers system-cpu-policer name *string* max-packet-burst *number*
Tree	max-packet-burst
Range	16 to 4000000
Default	16
Configurable	True
Platforms	Supported on all platforms

peak-packet-rate *number*

Description	The maximum number of packets per second (bucket empty/fill rate)
Context	acl policers system-cpu-policer name *string* peak-packet-rate *number*
Tree	peak-packet-rate
Range	1 to 4000000
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Container for system CPU policer statistics None of these statistics are populated if the policer is configured as entry-specific=true.
Context	acl policers system-cpu-policer name *string* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

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 policers system-cpu-policer name *string* statistics conforming-octets *number*
Tree	conforming-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

conforming-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered conforming by the policer
Context	acl policers system-cpu-policer name *string* statistics conforming-packets *number*
Tree	conforming-packets
Default	0

Configurable	False
Platforms	Supported on all platforms

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.
Context	acl policers system-cpu-policer name *string* statistics exceeding-octets *number*
Tree	exceeding-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

exceeding-packets *number*

Description	The number of packets (actually Ethernet frames) that were considered exceeding by the policer
Context	acl policers system-cpu-policer name *string* 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 that applied to these statistics
Context	acl policers system-cpu-policer name *string* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

system-filter

Description	Top level container for System filters

Context	acl system-filter
Tree	system-filter
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv4-filter

Description	Top level container for System IPv4 filters
Context	acl system-filter ipv4-filter
Tree	ipv4-filter
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

entry sequence-id *number*

Description	List of filter rules.
Context	acl system-filter ipv4-filter entry sequence-id *number*
Tree	entry
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 system-filter ipv4-filter entry sequence-id *number*
Range	1 to 256
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

action

Description	Container for the actions to be applied to packets matching the System filter entry.

Context	acl system-filter ipv4-filter entry sequence-id *number* action
Tree	action
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

accept

Description	Accept matching packets
Context	acl system-filter ipv4-filter entry sequence-id *number* action accept
Tree	accept
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

drop

Description	Drop matching packets without sending any ICMP messages back to the source
Context	acl system-filter ipv4-filter entry sequence-id *number* action drop
Tree	drop
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

log *boolean*

Description	When this is true, a log is created for each packet matching the entry The log entry contains the following information:
Context	acl system-filter ipv4-filter entry sequence-id *number* action drop log *boolean*
Tree	log
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

description *string*

Description	Description string for the filter entry
Context	acl system-filter ipv4-filter entry sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

match

Description	Container for the conditions that determine whether a packet matches this entry
Context	acl system-filter ipv4-filter entry sequence-id *number* match
Tree	match
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-ip

Description	Packet matching criteria based on destination IPv4 address
Context	acl system-filter ipv4-filter entry sequence-id *number* match destination-ip
Tree	destination-ip
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 ipv4-filter entry sequence-id *number* match destination-ip address *string*
Tree	address
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 system-filter ipv4-filter entry sequence-id *number* match destination-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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
Tree	destination-port
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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.

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 destination-port range

Tree range

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

end *(number | keyword)*

Description The ending port number to include in the range

Context acl system-filter ipv4-filter entry sequence-id *number* match destination-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
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- micro-bfd
  BFD session over each LAG member link
- microsoft-ds
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- 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
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- pptp
  Point-to-Point Tunneling Protocol (PPTP)
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- print-srv
  Network PostScript print server
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  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
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  Secure Internet Live Conferencing (SILC)
- smux
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- sna-gw
  IBM Systems Network Architecture (SNA) gateway access server
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- snmp-trap
  SNMP Traps
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- 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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  Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
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  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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

start *(number | keyword)*

Description The starting port number to include in the range

Context acl system-filter ipv4-filter entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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

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- imap3

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- 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

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  RLZ DBase
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  IBM RMC (Remote monitoring and Control) protocol
- rmonitor
  rmonitor, Remote Monitor
- rpc2portmap
  Rpc2portmap

- rsync

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- rtelnet

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- rtsp

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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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- snmp-trap

  SNMP Traps
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Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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- bootps
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- ccso-ns
  CCSO Nameserver
- chargen

Character Generator Protocol (CHARGEN)

- cisco-tdp
  Cisco Tag Distribution Protocol
- citadel
  Citadel
- clearcase
  ClearCase albd
- commerce
  Commerce Applications
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  Remote Procedure Call
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  SupportSoft Nexus Remote Command
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  Remote Job Entry
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  Time Protocol

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  ANSI Z39.50

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 ipv4-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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 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 system-filter ipv4-filter entry sequence-id *number* match first-fragment *boolean*

Tree first-fragment

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 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 acl system-filter ipv4-filter entry sequence-id *number* match fragment *boolean*

Tree	fragment
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 system-filter ipv4-filter entry sequence-id *number* match icmp
Tree	icmp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 system-filter ipv4-filter entry sequence-id *number* match icmp code *number*
Tree	code
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *(number | keyword)*

Description	Match a single ICMP type value.
Context	acl system-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

- 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

protocol *(number | keyword)*

Description An IPv4 packet matches this condition if its IP protocol type field matches the specified value

Context acl system-filter ipv4-filter 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

prefix *string*

Description Match a packet if its source IP address is within the specified IPv4 prefix.

Context acl system-filter ipv4-filter entry sequence-id *number* match source-ip prefix *string*

Tree prefix

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

source-port

Description 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.

Context acl system-filter ipv4-filter entry sequence-id *number* match source-port

Tree source-port

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 source-port operator *keyword*

Tree operator

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

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

start *(number | keyword)*

Description The starting port number to include in the range

Context acl system-filter ipv4-filter entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

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
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  Extensible Provisioning Protocol
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- ftp-data
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- ftps-data
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  Group Domain Of Interpretation (GDOI) protocol
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  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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  Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl

  IEEE Media Management System over SSL
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  Mac OS X Server administration
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  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
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  NETRJS protocol
- netrjs-4
  NETRJS protocol
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  NetBIOS Name Service
- netbios-ss
  NetBIOS Session Service
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  Netnews
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  new-rwho, new-who
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- 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)
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  Real Time Streaming Protocol (RTSP)
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  Simple Gateway Monitoring Protocol (SGMP)
- silc

  Secure Internet Live Conferencing (SILC)
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  Email message submission (SMTP)
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- ups

  Uninterruptible power supply (UPS)
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  X Display Manager Control Protocol (XDMCP)
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- 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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
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  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
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  DHCP Failover Protocol
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  Digital Imaging and Communications in Medicine
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  Discard Protocol. Also Wake-on-LAN.
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  DNSIX security protocol auditing
- domain
  Domain Name System
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  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
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  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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tcp-flags *string*

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

Context acl system-filter ipv4-filter entry sequence-id *number* match tcp-flags *string*

Tree tcp-flags

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description Statistics container for packets matching the system-filter entry

Context acl system-filter ipv4-filter entry sequence-id *number* statistics

Tree statistics

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

incomplete *boolean*

Description	Returns true when at least one linecard had insufficient stats resources to ensure an accurate set of values for the number of matched packets.
Context	acl system-filter ipv4-filter entry sequence-id *number* statistics incomplete *boolean*
Tree	incomplete
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Time of the last clear command performed by the user at this level
Context	acl system-filter ipv4-filter entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

last-clear *string*

Description	Time of the last clear command performed by the user at this level
Context	acl system-filter ipv4-filter last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv6-filter

Description	Top level container for System IPv6 filters
Context	acl system-filter ipv6-filter
Tree	ipv6-filter
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

entry sequence-id *number*

Description	List of filter rules.
Context	acl system-filter ipv6-filter entry sequence-id *number*
Tree	entry
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 system-filter ipv6-filter entry sequence-id *number*
Range	0 to 128
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

action

Description	Container for the actions to be applied to packets matching the System filter entry.
Context	acl system-filter ipv6-filter entry sequence-id *number* action
Tree	action
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

accept

Description	Accept matching packets
Context	acl system-filter ipv6-filter entry sequence-id *number* action accept
Tree	accept
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

drop

Description	Drop matching packets without sending any ICMP messages back to the source
Context	acl system-filter ipv6-filter entry sequence-id *number* action drop
Tree	drop
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

log *boolean*

Description	When this is true, a log is created for each packet matching the entry The log entry contains the following information:
Context	acl system-filter ipv6-filter entry sequence-id *number* action drop log *boolean*
Tree	log
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

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*
Tree	address
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 system-filter ipv6-filter entry sequence-id *number* match destination-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

prefix *string*

Description	Match a packet if its destination IP address is within the specified IPv6 prefix.
Context	acl system-filter ipv6-filter entry sequence-id *number* match destination-ip prefix *string*

Tree prefix

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 ipv6-filter entry sequence-id *number* match destination-port

Tree destination-port

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

operator *keyword*

Description Comparison operator

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

Context acl system-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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

range

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

Context	acl system-filter ipv6-filter entry sequence-id *number* match destination-port range
Tree	range
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

end *(number | keyword)*

Description	The ending port number to include in the range
Context	acl system-filter ipv6-filter entry sequence-id *number* match destination-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
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  Hypertext Transfer Protocol over TLS/SSL
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  IEEE Media Management System over SSL
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  Internet Message Access Protocol (IMAP), version 3
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  Internet Message Access Protocol over TLS/SSL
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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

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  Microsoft Directory Services
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  Mobile IP Agent
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  Monitor
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  Message Send Protocol
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  Netnews Administration System (NAS)
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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
- 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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  Optimized Link State Routing (OLSR)
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  PIM Auto-RP
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  Post Office Protocol 3 over TLS/SSL (POP3S)
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  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)
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  SNMP Traps
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  Simple Mail Transfer Protocol (SMTP)
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  Structured Query Language (SQL) Service
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  Secure Shell Protocol
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  Email message submission (SMTP)
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  Open Network Computing Remote Procedure Call (ONC RPC), also Sun RPC
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  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)
- 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

start *(number | keyword)*

Description The starting port number to include in the range

Context acl system-filter ipv6-filter entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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

value *(number | keyword)*

Description A destination port number

Context acl system-filter ipv6-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
- 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
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  Commerce Applications
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  Monitor
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- rje
  Remote Job Entry
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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

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  Email message submission (SMTP)
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  TACACS Login Host protocol
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  Talk
- tcpmux
  TCP Port Service Multiplexer (TCPMUX)
- tcpnethaspsrv
  tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
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  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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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 system-filter ipv6-filter entry sequence-id *number* match icmp6 code *number*

Tree code

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *(number | keyword)*

Description Match a single ICMPv6 type value

Context acl system-filter ipv6-filter 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

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

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 ipv6-filter entry sequence-id *number* match source-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

prefix *string*

Description	Match a packet if its source IP address is within the specified IPv6 prefix.
Context	acl system-filter ipv6-filter entry sequence-id *number* match source-ip prefix *string*
Tree	prefix
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

source-port

Description 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.

Context acl system-filter ipv6-filter entry sequence-id *number* match source-port

Tree source-port

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

operator *keyword*

Description Comparison operator

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

Context acl system-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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

range

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

Context acl system-filter ipv6-filter entry sequence-id *number* match source-port range

Tree range

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

end *(number | keyword)*

Description The ending port number to include in the range

Context acl system-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
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  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
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  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
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- pop2
  Post Office Protocol, version 2 (POP2)
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  Point-to-Point Tunneling Protocol (PPTP)
- ptp-event
  Precision Time Protocol (PTP) event messages
- ptp-general
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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
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- 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)
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- sql-svcs
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- sql
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- 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

start *(number | keyword)*

Description The starting port number to include in the range

Context acl system-filter ipv6-filter entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

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

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  rlogin (TCP) or Who (UDP)
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  BFD session over each LAG member link
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  Microsoft Directory Services
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  Monitor
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- mssql-s
  Microsoft SQL Server database management system (MSSQL) server
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  Multicast Source Discovery Protocol
- ms-exchange
  MS Exchange Routing
- msp
  Message Send Protocol
- multihop-bfd

Bidirectional Forwarding Detection Multi-Hop

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  Netnews Administration System (NAS)
- ncp
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- netrjs-1
  NETRJS protocol
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- netbios-data
  NetBIOS Datagram Service
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  netwall, for Emergency Broadcasts
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  PIM Auto-RP
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- 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

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- xdmcp

  X Display Manager Control Protocol (XDMCP)
- xns-ch

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- xns-mail

  Xerox Network Systems (XNS) Mail
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Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

value *(number | keyword)*

Description A source port number

Context acl system-filter ipv6-filter entry sequence-id *number* match source-port value *(number | keyword)*

Tree value

Range 0 to 65535

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  Authentication Service
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  Bidirectional Forwarding Detection Single Hop
- bfd-echo

BFD Echo

- bftp
  Background File Transfer Program
- bgmp
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  Border Gateway Protocol
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Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tcp-flags *string*

Description A logical expression using the &, | 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

incomplete *boolean*

Description	Returns true when at least one linecard had insufficient stats resources to ensure an accurate set of values for the number of matched packets.
Context	acl system-filter ipv6-filter entry sequence-id *number* statistics incomplete *boolean*
Tree	incomplete
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Time of the last clear command performed by the user at this level
Context	acl system-filter ipv6-filter entry sequence-id *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-match *string*

Description	The elapsed time since a packet last matched the entry, considering all subinterfaces.
Context	acl system-filter ipv6-filter entry sequence-id *number* statistics last-match *string*
Tree	last-match
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 ipv6-filter entry sequence-id *number* statistics matched-packets *number*
Tree	matched-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tcam-entries *number*

Description	The number of TCAM entries required to implement a single instance of this filter rule.
Context	acl system-filter ipv6-filter entry sequence-id *number* tcam-entries *number*
Tree	tcam-entries
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Time of the last clear command performed by the user at this level
Context	acl system-filter ipv6-filter last-clear *string*
Tree	last-clear

String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

Description	Context to configure BFD parameters and report BFD sessions state
Context	bfd
Tree	bfd
Configurable	True
Platforms	Supported on all platforms

micro-bfd-sessions

Description	Context to configure micro-BFD session parameters and report sessions state
Context	bfd micro-bfd-sessions
Tree	micro-bfd-sessions
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lag-interface name *reference*

Description	List of interface references to associate a micro-BFD session config and state
Context	bfd micro-bfd-sessions lag-interface name *reference*
Tree	lag-interface
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *reference*

Description	Reference ID for associated lag interface Example: lag1 (Reference Interface lag1).
Context	bfd micro-bfd-sessions lag-interface name *reference*

Reference	interface name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Administratively enable or disable BFD for this subinterface
Context	bfd micro-bfd-sessions lag-interface name *reference* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

desired-minimum-transmit-interval *number*

Description	The minimum interval between transmission of BFD control packets 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.
Context	bfd micro-bfd-sessions lag-interface name *reference* desired-minimum-transmit-interval *number*
Tree	desired-minimum-transmit-interval
Range	10000 to 100000000
Default	1000000
Units	microseconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

detection-multiplier *number*

Description	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.
Context	bfd micro-bfd-sessions lag-interface name *reference* detection-multiplier *number*
Tree	detection-multiplier
Range	3 to 20
Default	3
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-address *(ipv4-address | ipv6-address)*

Description	IP address to be used as source address in BFD packets
Context	bfd micro-bfd-sessions lag-interface name *reference* local-address *(ipv4-address | ipv6-address)*
Tree	local-address
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

member-interface name *string*

Description	List of interface references to associate a micro-BFD session config and state
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string*
Tree	member-interface
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description Reference ID for associated interface Example: ethernet-2/1 (Reference Interface ethernet-2/1).

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

active-receive-interval *number*

Description 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.

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* active-receive-interval *number*

Tree active-receive-interval

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

active-transmit-interval *number*

Description 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

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* active-transmit-interval *number*

Tree active-transmit-interval

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

async

Description Container for async BFD operational state parameters

Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async
Tree	async
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-clear *string*

Description	Timestamp of the last time the session counters were cleared.
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-packet-received *string*

Description	Timestamp for when the last BFD packet was received for this session
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async last-packet-received *string*
Tree	last-packet-received
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-packet-transmitted *string*

Description	Timestamp for when the last BFD packet was transmitted for this session
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async last-packet-transmitted *string*
Tree	last-packet-transmitted
String Length	20 to 32

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-errored-packets *number*

Description	Counter for the number of BFD packets received with BFD level errors
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async received-errored-packets *number*
Tree	received-errored-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-packets *number*

Description	Counter for the number of BFD packets received for this session
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async received-packets *number*
Tree	received-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

transmitted-packets *number*

Description	Counter for the number of BFD packets transmitted for this session
Context	bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* async transmitted-packets *number*
Tree	transmitted-packets
Default	0
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-state-transition *string*

Description 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.

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* last-state-transition *string*

Tree last-state-transition

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-diagnostic-code *keyword*

Description The local BFD diagnostic code indicating the most recent reason for failure of this BFD session

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* local-diagnostic-code *keyword*

Tree local-diagnostic-code

Options

- NO_DIAGNOSTIC

  No diagnostic code was specified, or the session has not changed state
- DETECTION_TIMEOUT

  The control detection time expired: no BFD packet was received within the required period
- ECHO_FAILED

  The BFD echo function failed - echo packets have not been received for the required period of time
- NEIGHBOR_SIGNALED_DOWN

  The neighbor signaled session down
- 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.
- 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.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-discriminator *number*

Description BFD session local discriminator

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* local-discriminator *number*

Tree local-discriminator

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-control-plane-independent *boolean*

Description Indicates if the remote neighbor has set the control independent flag

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* remote-control-plane-independent *boolean*

Tree remote-control-plane-independent

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-diagnostic-code *keyword*

Description The remote BFD diagnostic code indicating the remote system's reason for failure of the BFD session

Context bfd micro-bfd-sessions lag-interface name *reference* member-interface name *string* remote-diagnostic-code *keyword*

Tree remote-diagnostic-code

Options

- NO_DIAGNOSTIC

  No diagnostic code was specified, or the session has not changed state

- DETECTION_TIMEOUT

  The control detection time expired: no BFD packet was received within the required period

- ECHO_FAILED

  The BFD echo function failed - echo packets have not been received for the required period of time

- NEIGHBOR_SIGNALED_DOWN

  The neighbor signaled session down

- 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.

- 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.

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-address *(ipv4-address | ipv6-address)*

Description	The remote IP address for the far-end of the BFD session This must be the same IP version as the local-address.
Context	bfd micro-bfd-sessions lag-interface name *reference* remote-address *(ipv4-address | ipv6-address)*
Tree	remote-address
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

required-minimum-receive *number*

Description	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.
Context	bfd micro-bfd-sessions lag-interface name *reference* required-minimum-receive *number*
Tree	required-minimum-receive
Range	10000 to 100000000
Default	1000000
Units	microseconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

network-instance name *string*

Description	network-instance context for BFD session.
Context	bfd network-instance name *string*
Tree	network-instance
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	A unique name identifying the network instance
Context	bfd network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

peer local-discriminator *number*

Description	BFD session state related to this peer
Context	bfd network-instance name *string* peer local-discriminator *number*
Tree	peer
Configurable	False
Platforms	Supported on all platforms

local-discriminator *number*

Description	BFD session local discriminator
Context	bfd network-instance name *string* peer local-discriminator *number*
Configurable	False
Platforms	Supported on all platforms

active-receive-interval *number*

Description	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.
Context	bfd network-instance name *string* peer local-discriminator *number* active-receive-interval *number*

Tree	active-receive-interval
Configurable	False
Platforms	Supported on all platforms

active-transmit-interval *number*

Description	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
Context	bfd network-instance name *string* peer local-discriminator *number* active-transmit-interval *number*
Tree	active-transmit-interval
Configurable	False
Platforms	Supported on all platforms

async

Description	Container for async BFD operational state parameters
Context	bfd network-instance name *string* peer local-discriminator *number* async
Tree	async
Configurable	False
Platforms	Supported on all platforms

last-clear *string*

Description	Timestamp of the last time the session counters were cleared.
Context	bfd network-instance name *string* peer local-discriminator *number* async last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-packet-received *string*

Description	Timestamp for when the last BFD packet was received for this session

Context	bfd network-instance name *string* peer local-discriminator *number* async last-packet-received *string*
Tree	last-packet-received
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-packet-transmitted *string*

Description	Timestamp for when the last BFD packet was transmitted for this session
Context	bfd network-instance name *string* peer local-discriminator *number* async last-packet-transmitted *string*
Tree	last-packet-transmitted
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

received-errored-packets *number*

Description	Counter for the number of BFD packets received with BFD level errors
Context	bfd network-instance name *string* peer local-discriminator *number* async received-errored-packets *number*
Tree	received-errored-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

received-packets *number*

Description	Counter for the number of BFD packets received for this session
Context	bfd network-instance name *string* peer local-discriminator *number* async received-packets *number*
Tree	received-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

transmitted-packets *number*

Description	Counter for the number of BFD packets transmitted for this session
Context	bfd network-instance name *string* peer local-discriminator *number* async transmitted-packets *number*
Tree	transmitted-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

up-transitions *number*

Description	Counter for the number of UP transitions for this BFD session
Context	bfd network-instance name *string* peer local-discriminator *number* async up-transitions *number*
Tree	up-transitions
Default	0
Configurable	False
Platforms	Supported on all platforms

failure-transitions *number*

Description	The number of times that the BFD session has transitioned out of the up state
Context	bfd network-instance name *string* peer local-discriminator *number* failure-transitions *number*
Tree	failure-transitions
Configurable	False
Platforms	Supported on all platforms

ipv6-link-local-interface *string*

Description	For IPv6 link local sessions only, indicates the local interface with which the session is associated.
Context	bfd network-instance name *string* peer local-discriminator *number* ipv6-link-local-interface *string*
Tree	ipv6-link-local-interface

Configurable	False
Platforms	Supported on all platforms

last-failure-time *string*

Description	Timestamp of the last BFD session transition out of the up state to down state
Context	bfd network-instance name *string* peer local-discriminator *number* last-failure-time *string*
Tree	last-failure-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-state-transition *string*

Description	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.
Context	bfd network-instance name *string* peer local-discriminator *number* last-state-transition *string*
Tree	last-state-transition
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

local-address *(ipv4-address | ipv6-address)*

Description	IP address to be used as source address in BFD packets
Context	bfd network-instance name *string* peer local-discriminator *number* local-address *(ipv4-address | ipv6-address)*
Tree	local-address
Configurable	False
Platforms	Supported on all platforms

local-diagnostic-code *keyword*

Description	The local BFD diagnostic code indicating the most recent reason for failure of this BFD session

Context bfd network-instance name *string* peer local-discriminator *number* local-diagnostic-code *keyword*

Tree local-diagnostic-code

Options

- NO_DIAGNOSTIC

  No diagnostic code was specified, or the session has not changed state

- DETECTION_TIMEOUT

  The control detection time expired: no BFD packet was received within the required period

- ECHO_FAILED

  The BFD echo function failed - echo packets have not been received for the required period of time

- NEIGHBOR_SIGNALED_DOWN

  The neighbor signaled session down

- 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.

- 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.

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description Details the operational state of the session

Context bfd network-instance name *string* peer local-discriminator *number* 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.

Configurable False

Platforms Supported on all platforms

remote-address *(ipv4-address | ipv6-address)*

Description	The remote IP address for the far-end of the BFD session This must be the same IP version as the local-address.
Context	bfd network-instance name *string* peer local-discriminator *number* remote-address *(ipv4-address | ipv6-address)*
Tree	remote-address
Configurable	False
Platforms	Supported on all platforms

remote-control-plane-independent *boolean*

Description	Indicates if the remote neighbor has set the control independent flag
Context	bfd network-instance name *string* peer local-discriminator *number* remote-control-plane-independent *boolean*
Tree	remote-control-plane-independent
Configurable	False
Platforms	Supported on all platforms

remote-diagnostic-code *keyword*

Description	The remote BFD diagnostic code indicating the remote system's reason for failure of the BFD session
Context	bfd network-instance name *string* peer local-discriminator *number* remote-diagnostic-code *keyword*
Tree	remote-diagnostic-code
Options	• NO_DIAGNOSTIC No diagnostic code was specified, or the session has not changed state • DETECTION_TIMEOUT The control detection time expired: no BFD packet was received within the required period • ECHO_FAILED The BFD echo function failed - echo packets have not been received for the required period of time • NEIGHBOR_SIGNALED_DOWN The neighbor signaled session down • 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.

- 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.

Configurable False

Platforms Supported on all platforms

remote-discriminator *number*

Description A unique identifier used by the remote system to identify this BFD session

Context bfd network-instance name *string* peer local-discriminator *number* remote-discriminator *number*

Tree remote-discriminator

Configurable False

Platforms Supported on all platforms

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 network-instance name *string* peer local-discriminator *number* remote-minimum-receive-interval *number*

Tree remote-minimum-receive-interval

Configurable	False
Platforms	Supported on all platforms

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 network-instance name *string* peer local-discriminator *number* remote-multiplier *number*
Tree	remote-multiplier
Configurable	False
Platforms	Supported on all platforms

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 network-instance name *string* peer local-discriminator *number* 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	Supported on all platforms

session-state *keyword*

Description	The state of the BFD session perceived by the local system

Context	bfd network-instance name *string* peer local-discriminator *number* 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
Configurable	False
Platforms	Supported on all platforms

sr-policy-color *number*

Description	SR-Policy color associated with this seamless BFD session
Context	bfd network-instance name *string* peer local-discriminator *number* sr-policy-color *number*
Tree	sr-policy-color
Configurable	False
Platforms	Supported on all platforms

sr-policy-endpoint *(ipv4-address | ipv6-address)*

Description	SR-Policy endpoint IP address associated with this seamless BFD session
Context	bfd network-instance name *string* peer local-discriminator *number* sr-policy-endpoint *(ipv4-address | ipv6-address)*
Tree	sr-policy-endpoint
Configurable	False
Platforms	Supported on all platforms

sr-policy-segment-list-id *number*

Description	SR-Policy segment ID associated with this seamless BFD session
Context	bfd network-instance name *string* peer local-discriminator *number* sr-policy-segment-list-id *number*

Tree	sr-policy-segment-list-id
Configurable	False
Platforms	Supported on all platforms

subscribed-protocols *string*

Description	Indicates the set of protocols that currently use this BFD session for liveliness detection
Context	bfd network-instance name *string* peer local-discriminator *number* subscribed-protocols *string*
Tree	subscribed-protocols
Configurable	False
Platforms	Supported on all platforms

subinterface id *string*

Description	List of subinterface references to associating BFD config and state
Context	bfd subinterface id *string*
Tree	subinterface
Configurable	True
Platforms	Supported on all platforms

id *string*

Description	Reference ID for associated subinterface Example: ethernet-2/1.100 (Reference Interface ethernet-2/1, subinterface 100).
Context	bfd subinterface id *string*
String Length	5 to 25
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable BFD for this subinterface
Context	bfd subinterface id *string* admin-state *keyword*
Tree	admin-state
Default	disable

Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

desired-minimum-transmit-interval *number*

Description	The minimum interval between transmission of BFD control packets 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.
Context	bfd subinterface id *string* desired-minimum-transmit-interval *number*
Tree	desired-minimum-transmit-interval
Range	10000 to 100000000
Default	1000000
Units	microseconds
Configurable	True
Platforms	Supported on all platforms

detection-multiplier *number*

Description	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.
Context	bfd subinterface id *string* detection-multiplier *number*
Tree	detection-multiplier
Range	3 to 20
Default	3
Configurable	True
Platforms	Supported on all platforms

max-hop-count *number*

Description	TTL to be used in the BFD IP header for multihop BFD.
Context	bfd subinterface id *string* max-hop-count *number*

Tree	max-hop-count
Range	2 to 255
Default	255
Configurable	True
Platforms	Supported on all platforms

minimum-echo-receive-interval *number*

Description	The minimum interval between echo packets the local node can receive Implicitly enabled echo mode on the associated interface.
Context	bfd subinterface id *string* minimum-echo-receive-interval *number*
Tree	minimum-echo-receive-interval
Range	0 | 250000 to 100000000
Default	0
Configurable	True
Platforms	Supported on all platforms

required-minimum-receive *number*

Description	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.
Context	bfd subinterface id *string* required-minimum-receive *number*
Tree	required-minimum-receive
Range	10000 to 100000000
Default	1000000
Units	microseconds
Configurable	True
Platforms	Supported on all platforms

total-bfd-sessions *number*

Description	Counter for the total number of BFD sessions

Context	bfd total-bfd-sessions *number*
Tree	total-bfd-sessions
Default	0
Configurable	False
Platforms	Supported on all platforms

total-unmatched-bfd-packets *number*

Description	Counter for the total number of BFD packets received not matching a BFD session
Context	bfd total-unmatched-bfd-packets *number*
Tree	total-unmatched-bfd-packets
Default	0
Configurable	False
Platforms	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
   +  synce
      +  ssm
         +  admin-state keyword
-  forwarding-complex reference
-  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
-  linecard reference
+  loopback-mode keyword
+  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)
            -  last-clear string
            -  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
         +  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
              +  internal-tags
                 +  tag-set reference
        +  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
        -  dns-resolution
           -  server domain string
```

```
            -  last-update string
            -  resolved-ip-address (ipv4-address | ipv6-address)
         +  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
         +  type keyword
      +  admin-state keyword
      +  dhcp-client
         +  trace-options
            +  trace keyword
      +  dhcp-relay
         +  admin-state keyword
         -  dns-resolution
            -  server domain string
               -  last-update string
               -  resolved-ip-address (ipv4-address | ipv6-address)
         +  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
               +  internal-tags
                  +  tag-set reference
         +  learn-unsolicited keyword
         +  limit
            +  log-only boolean
            +  max-entries number
            +  warning-threshold-pct number
         +  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-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
  -  healthz
     -  last-unhealthy string
     -  status keyword
     -  unhealthy-count 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
  -  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
     -  maximum number
     -  maximum-time string
  +  tx-laser boolean
```

```
   -  vendor string
   -  vendor-lot-number 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*

Description	The list of named interfaces on the device
Context	interface name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	The name of the interface Valid options are: irb<N>, N=0..255 lif-<lif_name> enp<bus>s<dev>f<fn>, bus=0..255, dev=0..31, fn=0..7 vhn-<vhn_name> lag<N>, N=1..128 [note1] lo<N>, N=0..255 mgmt0 mgmt0-standby ethernet-<slot>/<port> ethernet-<slot>/<mda>/<port> system0 <lif_name>=Linux interface name <vhn_name>=vhost interface name <slot>=slot number {1,2,3,..} <mda>=mda id {a,b,c,d} <port>=port id {1,2,3,..} [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.
Context	interface name *string*
String Length	3 to 20
Configurable	True
Platforms	Supported on all platforms

adapter

Description	State for adapters
Context	interface name *string* adapter
Tree	adapter
Configurable	False
Platforms	Supported on all platforms

model-number *string*

Description	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.
Context	interface name *string* adapter model-number *string*
Tree	model-number
Configurable	False
Platforms	Supported on all platforms

type *keyword*

Description	Type of adapter for the port
Context	interface name *string* adapter type *keyword*
Tree	type
Options	• unknown • qsfp28-to-sfp+/sfp28 • cfp-to-qsfp28
Configurable	False
Platforms	Supported on all platforms

vendor-manufacture-date *string*

Description	Vendor's date code. This is the information as read from the EEPROM of the part.
Context	interface name *string* adapter vendor-manufacture-date *string*
Tree	vendor-manufacture-date
Configurable	False
Platforms	Supported on all platforms

vendor-oui *string*

Description	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.
Context	interface name *string* adapter vendor-oui *string*

Tree	vendor-oui
Configurable	False
Platforms	Supported on all platforms

vendor-part-number *string*

Description	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.
Context	interface name *string* adapter vendor-part-number *string*
Tree	vendor-part-number
Configurable	False
Platforms	Supported on all platforms

vendor-serial-number *string*

Description	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.
Context	interface name *string* adapter vendor-serial-number *string*
Tree	vendor-serial-number
Configurable	False
Platforms	Supported on all platforms

admin-state *keyword*

Description	The configured, desired state of the interface
Context	interface name *string* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	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 2x100/4x100 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 4x10, 4x25 and 2x100/4x100 breakout on ports 1-32. 7250 IXR-6e/10e 36p QSFPDD IMM all port: 4x100GE and 2x100GE
Context	interface name *string* breakout-mode
Tree	breakout-mode
Configurable	True
Platforms	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10e, 7250 IXR-6e

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 • 50G • 100G
Configurable	True
Platforms	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10e, 7250 IXR-6e

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

- 3
- 4
- 8

Configurable	True
Platforms	7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10e, 7250 IXR-6e

description *string*

Description	A user-configured description of the interface
Context	interface name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

ethernet

Description	Enter the ethernet context
Context	interface name *string* ethernet
Tree	ethernet
Configurable	True
Platforms	Supported on all platforms

aggregate-id *reference*

Description	lag interface with which this interface is associated
Context	interface name *string* ethernet aggregate-id *reference*
Tree	aggregate-id
Reference	interface name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

auto-negotiate *boolean*

Description 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.

Context interface name *string* ethernet auto-negotiate *boolean*

Tree auto-negotiate

Configurable True

Platforms 7220 IXR-D1

dac-link-training *boolean*

Description 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.

Context interface name *string* ethernet dac-link-training *boolean*

Tree dac-link-training

Configurable True

Platforms 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H3, 7220 IXR-H4

duplex-mode *keyword*

Description 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.

Context interface name *string* ethernet duplex-mode *keyword*

Tree duplex-mode

Options

- full
- half

Configurable True

Platforms 7220 IXR-D1

flow-control

Description Enter the flow-control context

Context interface name *string* ethernet flow-control

Tree	flow-control
Configurable	True
Platforms	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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Description	Holds link down events for the configured time. 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.
Context	interface name *string* ethernet hold-time down *number*
Tree	down
Range	1 to 86400
Units	seconds
Configurable	True
Platforms	Supported on all platforms

down-expires *string*

Description	The remaining time until the hold-time down expires and the interface goes operationally down.
Context	interface name *string* ethernet hold-time down-expires *string*
Tree	down-expires
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

up *number*

Description	Holds link up events for the configured time. 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.

Context	interface name *string* ethernet hold-time up *number*
Tree	up
Range	1 to 86400
Units	seconds
Configurable	True
Platforms	Supported on all platforms

up-expires *string*

Description	The remaining time until the hold-time up expires and the interface comes up.
Context	interface name *string* ethernet hold-time up-expires *string*
Tree	up-expires
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

hw-mac-address *string*

Description	The MAC address associated with the port
Context	interface name *string* ethernet hw-mac-address *string*
Tree	hw-mac-address
Configurable	False
Platforms	Supported on all platforms

l2cp-transparency

Description	Configuration and state of the Layer-2 Control Protocol transparency
Context	interface name *string* ethernet l2cp-transparency
Tree	l2cp-transparency
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dot1x

Description Container for the configuration of 802.1x Port based Network Access Control.

Context interface name *string* ethernet l2cp-transparency dot1x

Tree dot1x

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-rule *keyword*

Description The operational state of the TCAM rule applied to ingress dot1x frames.

Context interface name *string* ethernet l2cp-transparency dot1x oper-rule *keyword*

Tree oper-rule

Options

- trap-to-cpu-untagged
- drop-tagged-and-untagged
- tunnel-tagged-and-untagged

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tunnel *boolean*

Description Configures if incoming dot1x frames are tunneled.

Dot1x frames are identified by MAC DA 01-80-c2-00-00-03 and Ethertype 0x888e.

Context interface name *string* ethernet l2cp-transparency dot1x tunnel *boolean*

Tree tunnel

Default false

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lacp

Description Container for L2CP transparency of the Link Aggregation Control Protocol

Context interface name *string* ethernet l2cp-transparency lacp

Tree	lacp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-rule *keyword*

Description	The operational state of the TCAM rule applied to ingress LACP frames.
Context	interface name *string* ethernet l2cp-transparency lacp oper-rule *keyword*
Tree	oper-rule
Options	• trap-to-cpu-untagged • drop-tagged-and-untagged • tunnel-tagged-and-untagged
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tunnel *boolean*

Description	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.
Context	interface name *string* ethernet l2cp-transparency lacp tunnel *boolean*
Tree	tunnel
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lldp

Description	Container for L2CP transparency of the Link Layer Discovery Protocol
Context	interface name *string* ethernet l2cp-transparency lldp
Tree	lldp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-rule *keyword*

Description The operational state of the TCAM rule applied to ingress LLDP frames.

Context interface name *string* ethernet l2cp-transparency lldp oper-rule *keyword*

Tree oper-rule

Options

- trap-to-cpu-untagged
- drop-tagged-and-untagged
- tunnel-tagged-and-untagged

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tunnel *boolean*

Description Configures if incoming LLDP frames are tunneled.

LLDP frames are identified by MAC DA 01-80-c2-00-00-00 and Ethertype 0x88cc.

Context interface name *string* ethernet l2cp-transparency lldp tunnel *boolean*

Tree tunnel

Default false

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ptp

Description Container for the configuration of Precision Time Protocol Peer-Delay frames.

Context interface name *string* ethernet l2cp-transparency ptp

Tree ptp

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-rule *keyword*

Description The operational state of the TCAM rule applied to ingress ptp frames.

Context	interface name *string* ethernet l2cp-transparency ptp oper-rule *keyword*
Tree	oper-rule
Options	• trap-to-cpu-untagged • drop-tagged-and-untagged • tunnel-tagged-and-untagged
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tunnel *boolean*

Description	Configures if incoming ptp frames are tunneled. ptp frames are identified by MAC DA 01-80-c2-00-00-0e and Ethertype 0x88f7.
Context	interface name *string* ethernet l2cp-transparency ptp tunnel *boolean*
Tree	tunnel
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tunnel-all-l2cp *boolean*

Description	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.
Context	interface name *string* ethernet l2cp-transparency tunnel-all-l2cp *boolean*
Tree	tunnel-all-l2cp
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

xstp

Description Container for the configuration of all the Spanning Tree Protocols.

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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.
Context	interface name *string* ethernet lacp-port-priority *number*
Tree	lacp-port-priority
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mac-address *string*

Description	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.
Context	interface name *string* ethernet mac-address *string*
Tree	mac-address
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

physical-medium *keyword*

Description	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.
Context	interface name *string* ethernet physical-medium *keyword*
Tree	physical-medium
Options	• 1000BASE-T
Configurable	False
Platforms	Supported on all platforms

port-speed *keyword*

Description	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 57-58: 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: 10G, 25G, 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]: 10G, 25G, 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 1-8: 40G, 100G 7220-D4 ports 9-28: 10G, 25G, 40G, 100G 7220-D4 ports 29-36: 10G, 25G, 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, 200G, 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 port group of 4 ports ({1, 2, 3, 6}, {4, 5, 7, 9}, {8, 10, 11, 12}, {13, 14, 15, 18}, {16, 17, 19, 21}, {20, 22, 23, 24}, {25, 26, 27, 30}, {28, 29, 31, 33}, {32, 34, 35, 36}, {37, 38, 39, 42}, {40, 41, 43, 45}, {44, 46, 47, 48}) is 25G the other 3 ports must also be 25G; if one port in each port group of 4 ports is 1G or 10G the other 3 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
- 200G
- 400G
- 1T

Configurable True

Platforms Supported on all platforms

ptp-asymmetry *number*

Description 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.

Context interface name *string* ethernet ptp-asymmetry *number*

Tree ptp-asymmetry

Default 0

Units nanoseconds

Configurable True

Platforms 7220 IXR-D5

reload-delay *number*

Description 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.

Context interface name *string* ethernet reload-delay *number*

Tree reload-delay

Range	1 to 86400
Units	seconds
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

reload-delay-expires *string*

Description	The remaining time until the reload-delay expires and the interface can go operationally up.
Context	interface name *string* ethernet reload-delay-expires *string*
Tree	reload-delay-expires
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

standby-signaling *keyword*

Description	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.
Context	interface name *string* ethernet standby-signaling *keyword*
Tree	standby-signaling
Options	• power-off • lacp
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Enter the statistics context
Context	interface name *string* ethernet statistics
Tree	statistics
Configurable	False

Platforms	Supported on all platforms

in-1024b-to-1518b-frames *number*

Description	Number of received Ethernet frames that are 1024-1518 bytes in length
Context	interface name *string* ethernet statistics in-1024b-to-1518b-frames *number*
Tree	in-1024b-to-1518b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-128b-to-255b-frames *number*

Description	Number of received Ethernet frames that are 128-255 bytes in length
Context	interface name *string* ethernet statistics in-128b-to-255b-frames *number*
Tree	in-128b-to-255b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-1519b-or-longer-frames *number*

Description	Number of received Ethernet frames that are 1519 bytes or longer
Context	interface name *string* ethernet statistics in-1519b-or-longer-frames *number*
Tree	in-1519b-or-longer-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-256b-to-511b-frames *number*

Description	Number of received Ethernet frames that are 256-511 bytes in length
Context	interface name *string* ethernet statistics in-256b-to-511b-frames *number*
Tree	in-256b-to-511b-frames
Default	0
Configurable	False

Platforms	Supported on all platforms

in-512b-to-1023b-frames *number*

Description	Number of received Ethernet frames that are 512-1023 bytes in length
Context	interface name *string* ethernet statistics in-512b-to-1023b-frames *number*
Tree	in-512b-to-1023b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-64b-frames *number*

Description	Number of received Ethernet frames that are exactly 64 bytes in length
Context	interface name *string* ethernet statistics in-64b-frames *number*
Tree	in-64b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-65b-to-127b-frames *number*

Description	Number of received Ethernet frames that are 65-127 bytes in length
Context	interface name *string* ethernet statistics in-65b-to-127b-frames *number*
Tree	in-65b-to-127b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-crc-error-frames *number*

Description	Number of receive error events due to FCS/CRC check failure
Context	interface name *string* ethernet statistics in-crc-error-frames *number*
Tree	in-crc-error-frames
Default	0
Configurable	False

Platforms	Supported on all platforms

in-fragment-frames *number*

Description	Number of fragment frames received on the interface
Context	interface name *string* ethernet statistics in-fragment-frames *number*
Tree	in-fragment-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-jabber-frames *number*

Description	Number of jabber frames received on the interface. Jabber frames are typically defined as oversize frames which also have a bad CRC
Context	interface name *string* ethernet statistics in-jabber-frames *number*
Tree	in-jabber-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-mac-pause-frames *number*

Description	Number of MAC layer PAUSE frames received on the interface.
Context	interface name *string* ethernet statistics in-mac-pause-frames *number*
Tree	in-mac-pause-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

in-oversize-frames *number*

Description	Number of oversize frames received on the interface (i.e. frames that exceed the operational port MTU)
Context	interface name *string* ethernet statistics in-oversize-frames *number*
Tree	in-oversize-frames

Default	0
Configurable	False
Platforms	Supported on all platforms

last-clear *string*

Description	Timestamp of the last time the MAC counters were cleared
Context	interface name *string* ethernet statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

out-1024b-to-1518b-frames *number*

Description	Number of transmitted Ethernet frames that are 1024-1518 bytes in length
Context	interface name *string* ethernet statistics out-1024b-to-1518b-frames *number*
Tree	out-1024b-to-1518b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

out-128b-to-255b-frames *number*

Description	Number of transmitted Ethernet frames that are 128-255 bytes in length
Context	interface name *string* ethernet statistics out-128b-to-255b-frames *number*
Tree	out-128b-to-255b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

out-1519b-or-longer-frames *number*

Description	Number of transmitted Ethernet frames that are 1519 bytes or longer
Context	interface name *string* ethernet statistics out-1519b-or-longer-frames *number*
Tree	out-1519b-or-longer-frames

Default	0
Configurable	False
Platforms	Supported on all platforms

out-256b-to-511b-frames *number*

Description	Number of transmitted Ethernet frames that are 256-511 bytes in length
Context	interface name *string* ethernet statistics out-256b-to-511b-frames *number*
Tree	out-256b-to-511b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

out-512b-to-1023b-frames *number*

Description	Number of transmitted Ethernet frames that are 512-1023 bytes in length
Context	interface name *string* ethernet statistics out-512b-to-1023b-frames *number*
Tree	out-512b-to-1023b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

out-64b-frames *number*

Description	Number of transmitted Ethernet frames that are exactly 64 bytes in length
Context	interface name *string* ethernet statistics out-64b-frames *number*
Tree	out-64b-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

out-65b-to-127b-frames *number*

Description	Number of transmitted Ethernet frames that are 65-127 bytes in length
Context	interface name *string* ethernet statistics out-65b-to-127b-frames *number*
Tree	out-65b-to-127b-frames

Default	0
Configurable	False
Platforms	Supported on all platforms

out-mac-pause-frames *number*

Description	Number of MAC layer PAUSE frames sent on the interface
Context	interface name *string* ethernet statistics out-mac-pause-frames *number*
Tree	out-mac-pause-frames
Default	0
Configurable	False
Platforms	Supported on all platforms

storm-control

Description	Enable the storm-control context
Context	interface name *string* ethernet storm-control
Tree	storm-control
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

broadcast-rate *number*

Description	The maximum rate allowed for ingress broadcast frames on the interface
Context	interface name *string* ethernet storm-control broadcast-rate *number*
Tree	broadcast-rate
Range	0 to 100000000
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

multicast-rate *number*

Description	The maximum rate allowed for ingress multicast frames on the interface
Context	interface name *string* ethernet storm-control multicast-rate *number*

Tree	multicast-rate
Range	0 to 100000000
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

operational-broadcast-rate *number*

Description	The operational maximum rate for ingress broadcast frames programmed on the interface
Context	interface name *string* ethernet storm-control operational-broadcast-rate *number*
Tree	operational-broadcast-rate
Units	kbps
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

operational-multicast-rate *number*

Description	The operational maximum rate for ingress multicast frames programmed on the interface
Context	interface name *string* ethernet storm-control operational-multicast-rate *number*
Tree	operational-multicast-rate
Units	kbps
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

operational-unknown-unicast-rate *number*

Description	The operational maximum rate for ingress unknown unicast frames programmed on the interface
Context	interface name *string* ethernet storm-control operational-unknown-unicast-rate *number*
Tree	operational-unknown-unicast-rate
Units	kbps

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

units *keyword*

Description	Units of storm-control policer in kbps or percentage of the interface bandwidth
Context	interface name *string* ethernet storm-control units *keyword*
Tree	units
Default	percentage
Options	• kbps • percentage
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

unknown-unicast-rate *number*

Description	The maximum rate allowed for ingress unknown unicast frames on the interface
Context	interface name *string* ethernet storm-control unknown-unicast-rate *number*
Tree	unknown-unicast-rate
Range	0 to 100000000
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

synce

Description	This struct containing all attributes for SyncE in line/client ports.
Context	interface name *string* ethernet synce
Tree	synce
Configurable	True
Platforms	7220 IXR-D5

ssm

Description This struct containing all attributes for QL/SSM with SyncE in these ports.

Context interface name *string* ethernet synce ssm

Tree ssm

Configurable True

Platforms 7220 IXR-D5

admin-state *keyword*

Description Configure the administrative state for SyncE in line/client ports. When enabled, the assoicated transmit and receiver ports are set to synchronous mode and ESMC/SSM processing is enabled. Otherwise, all syncE functions are disabled in the port.

Context interface name *string* ethernet synce ssm admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms 7220 IXR-D5

forwarding-complex *reference*

Description The forwarding-complex on which this interface resides

This field is not populated for non-forwarding-complex-attached interfaces, for example mgmt0.

Context interface name *string* forwarding-complex *reference*

Tree forwarding-complex

Reference platform linecard slot *number* forwarding-complex name *keyword*

Configurable False

Platforms Supported on all platforms

ifindex *number*

Description System-wide persistent unique ifIndex assigned to the interface

Context interface name *string* ifindex *number*

Tree	ifindex
Configurable	False
Platforms	Supported on all platforms

lag

Description	Container for options related to LAG
Context	interface name *string* lag
Tree	lag
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp

Description	LACP parameters for the associated LAG
Context	interface name *string* lag lacp
Tree	lacp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-key *number*

Description	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.
Context	interface name *string* lag lacp admin-key *number*
Tree	admin-key
Range	1 to 65535
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interval *keyword*

Description Set the period between LACP messages -- uses the lacp-period-type enumeration.

Context interface name *string* lag lacp interval *keyword*

Tree interval

Default SLOW

Options

- FAST

  Send LACP packets every second

- SLOW

  Send LACP packets every 30 seconds

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-mode *keyword*

Description ACTIVE is to initiate the transmission of LACP packets. PASSIVE is to wait for peer to initiate the transmission of LACP packets.

Context interface name *string* lag lacp lacp-mode *keyword*

Tree lacp-mode

Default ACTIVE

Options

- ACTIVE

  Interface is an active member, i.e., will detect and maintain aggregates

- PASSIVE

  Interface is a passive member, i.e., it participates with an active partner

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id-mac *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. If not configured, the system-ID configured at the system/ level is used.

Context interface name *string* lag lacp system-id-mac *string*

Tree	system-id-mac
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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. If not configured, the system-priority configured at the system/ level is used.
Context	interface name *string* lag lacp system-priority *number*
Tree	system-priority
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-fallback-mode *keyword*

Description	Specifies lacp-fallback mode if enabled
Context	interface name *string* lag lacp-fallback-mode *keyword*
Tree	lacp-fallback-mode
Options	• static Set the LACP-fallback mode as static
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-fallback-timeout *number*

Description	Specifies the LACP-fallback timeout interval in seconds
Context	interface name *string* lag lacp-fallback-timeout *number*
Tree	lacp-fallback-timeout
Range	4 to 3600
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lag-speed *number*

Description	reports current aggregate bandwidth speed of the associated LAG
Context	interface name *string* lag lag-speed *number*
Tree	lag-speed
Units	Mbps
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *reference*

Description	Enter the name context
Context	interface name *string* lag member name *reference*
Reference	interface name *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp

Description	Operational status data for the member interfaces
Context	interface name *string* lag member name *reference* lacp
Tree	lacp
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

activity *keyword*

Description	Indicates participant is active or passive
Context	interface name *string* lag member name *reference* lacp activity *keyword*
Tree	activity
Options	• ACTIVE Interface is an active member, i.e., will detect and maintain aggregates • PASSIVE Interface is a passive member, i.e., it participates with an active partner
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

aggregatable *boolean*

Description	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
Context	interface name *string* lag member name *reference* lacp aggregatable *boolean*
Tree	aggregatable
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

collecting *boolean*

Description	If true, the participant is collecting incoming frames on the link, otherwise false
Context	interface name *string* lag member name *reference* lacp collecting *boolean*
Tree	collecting
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

distributing *boolean*

Description	When true, the participant is distributing outgoing frames; when false, distribution is disabled
Context	interface name *string* lag member name *reference* lacp distributing *boolean*
Tree	distributing
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.

Context	interface name *string* lag member name *reference* lacp lacp-port-priority *number*
Tree	lacp-port-priority
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-key *number*

Description	Current operational value of the key for the aggregate interface
Context	interface name *string* lag member name *reference* lacp oper-key *number*
Tree	oper-key
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

partner-id *string*

Description	MAC address representing the protocol partner's interface system ID
Context	interface name *string* lag member name *reference* lacp partner-id *string*
Tree	partner-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

partner-key *number*

Description	Operational value of the protocol partner's key
Context	interface name *string* lag member name *reference* lacp partner-key *number*
Tree	partner-key
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

partner-port-num *number*

Description	Port number of the partner (remote) port for this member port
Context	interface name *string* lag member name *reference* lacp partner-port-num *number*
Tree	partner-port-num
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

port-num *number*

Description	Port number of the local (actor) aggregation member
Context	interface name *string* lag member name *reference* lacp port-num *number*
Tree	port-num
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	LACP protocol counters
Context	interface name *string* lag member name *reference* lacp statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-errors *number*

Description	Number of LACPDU illegal packet errors
Context	interface name *string* lag member name *reference* lacp statistics lacp-errors *number*
Tree	lacp-errors
Default	0
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-in-pkts *number*

Description	Number of LACPDUs received
Context	interface name *string* lag member name *reference* lacp statistics lacp-in-pkts *number*
Tree	lacp-in-pkts
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-out-pkts *number*

Description	Number of LACPDUs transmitted
Context	interface name *string* lag member name *reference* lacp statistics lacp-out-pkts *number*
Tree	lacp-out-pkts
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lacp-unknown-errors *number*

Description	Number of LACPDU unknown packet errors
Context	interface name *string* lag member name *reference* lacp statistics lacp-unknown-errors *number*
Tree	lacp-unknown-errors
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

synchronization *keyword*

Description	Indicates whether the participant is in-sync or out-of-sync
Context	interface name *string* lag member name *reference* lacp synchronization *keyword*
Tree	synchronization
Options	• IN_SYNC Participant is in sync with the system id and key transmitted • OUT_SYNC Participant is not in sync with the system id and key transmitted
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description MAC address that defines the local system ID for the aggregate interface

Context interface name *string* lag member name *reference* lacp system-id *string*

Tree system-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

timeout *keyword*

Description The timeout type (short or long) used by the participant

Context interface name *string* lag member name *reference* lacp timeout *keyword*

Tree timeout

Options

- 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.

- SHORT

  Participant wishes to use short timeouts, i.e., expects frequent transmissions to aggressively detect status changes. Short timeout is 3 seconds.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-change *string*

Description The date and time of the most recent change to the LAG member-link state

Context interface name *string* lag member name *reference* last-change *string*

Tree last-change

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

microbfd-enabled *boolean*

Description	Indicates if microBFD is currently used in the determination of the member-link oper-status
Context	interface name *string* lag member name *reference* microbfd-enabled *boolean*
Tree	microbfd-enabled
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-down-reason *keyword*

Description	Reason for operational down state for the associated LAG
Context	interface name *string* lag member name *reference* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• port-disabled • port-oper-disabled • lag-admin-disabled • lacp-down • microBFD-down • lag-min-link-threshold • lag-speed-mismatch • other
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description	Operational state for the associated LAG
Context	interface name *string* lag member 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.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-links *number*

Description Specifies the mininum 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

linecard *reference*

Description	The linecard on which this interface resides This field is not populated for non-forwarding-complex-attached interfaces, for example mgmt0.
Context	interface name *string* linecard *reference*
Tree	linecard
Reference	platform linecard slot *number*
Configurable	False
Platforms	Supported on all platforms

loopback-mode *keyword*

Description	Loopback mode of the port
Context	interface name *string* loopback-mode *keyword*
Tree	loopback-mode
Options	• none No loopback is applied • facility A loopback which directs traffic normally transmitted on the port back into the switch as if received on the same port from an external source On some systems this is also called local loopback. • terminal A loopback which directs traffic received from an external source on the port back out the transmit side of the same port.
Configurable	True
Platforms	Supported on all platforms

mtu *number*

Description

Port MTU in bytes including ethernet overhead but excluding 4-bytes FCS

If a transmitted packet exceeds this size it is dropped.

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.

The max mtu for the mgmt0 and mgmt0-standby interfaces is 9216.

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.

All other systems support a maximum port MTU of 9500 and minimum of 1500 bytes.

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.

Context interface name *string* mtu *number*

Tree mtu

Range 1450 to 9500

Units bytes

Configurable True

Platforms Supported on all platforms

oper-down-reason *keyword*

Description The first (and possibly only) reason for the port being operationally down

Context interface name *string* oper-down-reason *keyword*

Tree oper-down-reason

Options

- port-admin-disabled
- mda-admin-disabled
- transceiver-oper-down
- 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
- unsupported-breakout-port

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
- testing

Configurable False

Platforms Supported on all platforms

p4rt

Description Top-level container for P4Runtime interface configuration and state

Context interface name *string* p4rt

Tree p4rt

Configurable True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	The numeric identifier used by the controller to address the interface 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. The programming entity must ensure that the ID is unique within the required context. 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.
Context	interface name *string* p4rt id *number*
Tree	id
Range	1 to 4294967295
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

parent-id *number*

Description	The numeric ID used by the controller to address the ASIC this interface resides on This is the ID configured at /platform/linecard/forwarding-complex/p4rt/id. This ID may be referred to as a 'device', 'node' or 'target' by the P4RT specification. Each switching ASIC (i.e., node) is addressed by the external entity based on its numeric identifier.
Context	interface name *string* p4rt parent-id *number*
Tree	parent-id
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

phy-group-members *string*

Description	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.

Context	interface name *string* phy-group-members *string*
Tree	phy-group-members
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L

qos

Description	Enable the qos context
Context	interface name *string* qos
Tree	qos
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

output

Description	Container for QoS configuration that applies to outbound traffic through the port or LAG
Context	interface name *string* qos output
Tree	output
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

queue queue-name *(reference | keyword)*

Description	List of queues
Context	interface name *string* qos output queue queue-name *(reference | keyword)*
Tree	queue
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

queue-name *(reference | keyword)*

Description	The queue name
Context	interface name *string* qos output queue queue-name *(reference | keyword)*
Options	• unicast-0 • unicast-1

- unicast-2
- unicast-3
- unicast-4
- unicast-5
- unicast-6
- unicast-7
- multicast-0
- multicast-1
- multicast-2
- multicast-3
- multicast-4
- multicast-5
- multicast-6
- 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

Reference qos queues queue name *string*

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

active-queue-management

Description Enter the active-queue-management context

Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management
Tree	active-queue-management
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

ecn-slope ecn-drop-probability *keyword*

Description	List of ECN slopes.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management ecn-slope ecn-drop-probability *keyword*
Tree	ecn-slope
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

ecn-drop-probability *keyword*

Description	The drop probability to which the ECN slope applies.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management ecn-slope ecn-drop-probability *keyword*
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. • all All traffic, consisting of traffic marked low, medium and high drop-probability.
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

max-probability *number*

Description	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.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management ecn-slope ecn-drop-probability *keyword* max-probability *number*
Tree	max-probability
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

max-threshold-bytes *number*

Description	The queue depth in bytes that corresponds to the ECN maximum threshold parameter.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management ecn-slope ecn-drop-probability *keyword* max-threshold-bytes *number*
Tree	max-threshold-bytes
Units	bytes
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

min-threshold-bytes *number*

Description	The queue depth in bytes that corresponds to the ECN mininum threshold parameter.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management ecn-slope ecn-drop-probability *keyword* min-threshold-bytes *number*
Tree	min-threshold-bytes
Units	bytes
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

slope-enabled *boolean*

Description Reads true if the slope is enabled.

A disabled slope has min-threshold-bytes = max-threshold-bytes = max-probability = 0

Context interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management ecn-slope ecn-drop-probability *keyword* slope-enabled *boolean*

Tree slope-enabled

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

wred-slope traffic-type *keyword* drop-probability *keyword*

Description List of WRED slopes.

Context interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword*

Tree wred-slope

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

traffic-type *keyword*

Description The traffic type to which the WRED slope applies.

Context interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword*

Options

- tcp

  Refers to IPv4/IPv6 packets with a protocol/next-header indicating a value of 6.

- non-tcp

  Refers to all packets that are not IPv4/IPv6 packets with a protocol/next-header indicating a value of 6.

- all

  Refers to all traffic, whether it is TCP or non-TCP.

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

drop-probability *keyword*

Description The drop probability to which the WRED slope applies.

Context interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword*

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.

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

max-probability *number*

Description The maximum probability of dropping 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.

Context interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword* max-probability *number*

Tree max-probability

Range 0 to 100

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

max-threshold-bytes *number*

Description The queue depth in bytes that corresponds to the WRED maximum threshold parameter.

Context interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword* max-threshold-bytes *number*

Tree	max-threshold-bytes
Units	bytes
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

min-threshold-bytes *number*

Description	The queue depth in bytes that corresponds to the WRED mininum threshold parameter.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword* min-threshold-bytes *number*
Tree	min-threshold-bytes
Units	bytes
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

slope-enabled *boolean*

Description	Reads true if the slope is enabled. A disabled slope has min-threshold-bytes = max-threshold-bytes = max-probability = 0
Context	interface name *string* qos output queue queue-name *(reference | keyword)* active-queue-management wred-slope traffic-type *keyword* drop-probability *keyword* slope-enabled *boolean*
Tree	slope-enabled
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

forwarding-class *string*

Description	The list of forwarding classes that map to this queue.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* forwarding-class *string*
Tree	forwarding-class
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

queue-depth

Description	Enter the queue-depth context
Context	interface name *string* qos output queue queue-name *(reference | keyword)* queue-depth
Tree	queue-depth
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

high-threshold-bytes *number*

Description	The operational hardware value of the high threshold in bytes.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* queue-depth high-threshold-bytes *number*
Tree	high-threshold-bytes
Units	bytes
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D4/D5

last-high-threshold-time *string*

Description	The last time the queue depth exceeded the high-threshold in a rising direction.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* queue-depth last-high-threshold-time *string*
Tree	last-high-threshold-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D5

maximum-burst-size *number*

Description	Maximum queue depth in bytes.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* queue-depth maximum-burst-size *number*
Tree	maximum-burst-size
Units	bytes

Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

scheduling

Description	Container for queue scheduling parameters
Context	interface name *string* qos output queue queue-name *(reference | keyword)* scheduling
Tree	scheduling
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

peak-rate-bps *number*

Description	The actual/operational peak rate in bits per second.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* scheduling peak-rate-bps *number*
Tree	peak-rate-bps
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

peak-rate-percent *number*

Description	The maximum percentage of port bandwidth that is available to the traffic in this queue during the PIR scheduling loop. The default is 100.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* scheduling peak-rate-percent *number*
Tree	peak-rate-percent
Range	1 to 100
Default	100
Configurable	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 except 7220 IXR-D1

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Tree weight

Range 1 to 255

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

template *reference*

Description	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.
Context	interface name *string* qos output queue queue-name *(reference | keyword)* template *reference*
Tree	template
Reference	qos *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

voq-template *reference*

Description	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
Context	interface name *string* qos output queue queue-name *(reference | keyword)* voq-template *reference*
Tree	voq-template
Reference	qos *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

queue-statistics

Description	Enter the queue-statistics context
Context	interface name *string* qos output queue-statistics
Tree	queue-statistics
Configurable	False
Platforms	Supported on all platforms except 7220 IXR-D1

queue queue-name *(reference | keyword)*

Description	List of queues.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)*
Tree	queue

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

queue-name *(reference | keyword)*

Description The queue name

Context interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)*

Options

- unicast-0
- unicast-1
- unicast-2
- unicast-3
- unicast-4
- unicast-5
- unicast-6
- unicast-7
- multicast-0
- multicast-1
- multicast-2
- multicast-3
- multicast-4
- multicast-5
- multicast-6
- 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

Reference qos queues queue name *string*

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

last-clear *string*

Description Timestamp of the last time the statistics associated with this queue were cleared

Context interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* last-clear *string*

Tree last-clear

String Length 20 to 32

Configurable False

Platforms Supported on all platforms except 7220 IXR-D1

virtual-output-queue slot *number*

Description 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.

Context interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number*

Tree virtual-output-queue

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *number*

Description The slot identifier for the virtual output queue.

Context interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number*

Range 1 to 8

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dropped-octets

Description	Enter the dropped-octets context
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-octets
Tree	dropped-octets
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

high-drop-probability *number*

Description	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-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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-octets high-drop-probability *number*
Tree	high-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

low-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-octets low-drop-probability *number*
Tree	low-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

medium-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-octets medium-drop-probability *number*
Tree	medium-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dropped-packets

Description	Enter the dropped-packets context
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-packets
Tree	dropped-packets
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

high-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-packets high-drop-probability *number*
Tree	high-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

low-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-packets low-drop-probability *number*
Tree	low-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

medium-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* dropped-packets medium-drop-probability *number*
Tree	medium-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

forwarded-octets

Description	Enter the forwarded-octets context
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-octets
Tree	forwarded-octets
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

high-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-octets high-drop-probability *number*
Tree	high-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

low-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-octets low-drop-probability *number*
Tree	low-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

medium-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-octets medium-drop-probability *number*
Tree	medium-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

forwarded-packets

Description	Enter the forwarded-packets context
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-packets
Tree	forwarded-packets
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

high-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-packets high-drop-probability *number*
Tree	high-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

low-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-packets low-drop-probability *number*
Tree	low-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

medium-drop-probability *number*

Description	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.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* forwarded-packets medium-drop-probability *number*
Tree	medium-drop-probability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

queue-depth

Description	Enter the queue-depth context
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* queue-depth
Tree	queue-depth
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

high-threshold-bytes *number*

Description	The operational hardware value of the high threshold in bytes.
Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* queue-depth high-threshold-bytes *number*
Tree	high-threshold-bytes
Units	bytes
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-high-threshold-time *string*

Description	The last time the depth of either VOQ associated with this slot exceeded the high-threshold in a rising direction.

Context	interface name *string* qos output queue-statistics queue queue-name *(reference | keyword)* virtual-output-queue slot *number* queue-depth last-high-threshold-time *string*
Tree	last-high-threshold-time
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

scheduler

Description	Output traffic scheduler options
Context	interface name *string* qos output scheduler
Tree	scheduler
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

tier level *number*

Description	List of output traffic scheduler tiers or levels
Context	interface name *string* qos output scheduler tier level *number*
Tree	tier
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1
Max. Elements	1

level *number*

Description	Enter the level context
Context	interface name *string* qos output scheduler tier level *number*
Range	1 to 4
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

node node-number *number*

Description	List of scheduler nodes at the specified scheduler level

Context	interface name *string* qos output scheduler tier level *number* node node-number *number*
Tree	node
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1
Max. Elements	12

node-number *number*

Description	An identifier of the scheduler node. Within a scheduler tier, higher-numbered nodes are served before lower-numbererd nodes.
Context	interface name *string* qos output scheduler tier level *number* node node-number *number*
Range	0 to 11
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

strict-priority *boolean*

Description	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.
Context	interface name *string* qos output scheduler tier level *number* node node-number *number* strict-priority *boolean*
Tree	strict-priority
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

weight *number*

Description	The DWRR weight assigned to the scheduler node
Context	interface name *string* qos output scheduler tier level *number* node node-number *number* weight *number*
Tree	weight
Range	1 to 127
Default	1
Configurable	True

Platforms	Supported on all platforms except 7220 IXR-D1

sflow

Description	Context to configure sFlow parameters
Context	interface name *string* sflow
Tree	sflow
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable sFlow on this interface
Context	interface name *string* sflow admin-state *keyword*
Tree	admin-state
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	interface name *string* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

carrier-transitions *number*

Description	Number of times the interface state has transitioned from down to up. This is reset to zero when the device is started or reset or the counters are cleared.
Context	interface name *string* statistics carrier-transitions *number*
Tree	carrier-transitions
Default	0

Configurable	False
Platforms	Supported on all platforms

in-broadcast-packets *number*

Description	Corresponds to ifHCInBroadcastPkts from the IF-MIB
Context	interface name *string* statistics in-broadcast-packets *number*
Tree	in-broadcast-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-discarded-packets *number*

Description	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. On 7250 IXR/IXRe systems this counter is not expected to increment above zero.
Context	interface name *string* statistics in-discarded-packets *number*
Tree	in-discarded-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-error-packets *number*

Description	Corresponds to ifInErrors from the IF-MIB
Context	interface name *string* statistics in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-fcs-error-packets *number*

Description	Ingress FCS errors

Context	interface name *string* statistics in-fcs-error-packets *number*
Tree	in-fcs-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-multicast-packets *number*

Description	Corresponds to ifHCInMulticastPkts from the IF-MIB
Context	interface name *string* statistics in-multicast-packets *number*
Tree	in-multicast-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-octets *number*

Description	Corresponds to ifHCInOctets from the IFMIB
Context	interface name *string* statistics in-octets *number*
Tree	in-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-packets *number*

Description	Sum of all received packets, independent of protocol and forwarding type and before discards and errors
Context	interface name *string* statistics in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-unicast-packets *number*

Description	Corresponds to ifHCInUcastPkts from the IF-MIB
Context	interface name *string* statistics in-unicast-packets *number*
Tree	in-unicast-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

last-clear *string*

Description	Timestamp of the last time the interface counters were cleared
Context	interface name *string* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

out-broadcast-packets *number*

Description	Corresponds to ifHCOutBroadcastPkts from the IF-MIB
Context	interface name *string* statistics out-broadcast-packets *number*
Tree	out-broadcast-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-discarded-packets *number*

Description	Corresponds to ifOutDiscards from the IF-MIB. On 7250 IXR-6/10 systems this counts packets dropped by an egress IP ACL of any of the port's subinterfaces.
Context	interface name *string* statistics out-discarded-packets *number*
Tree	out-discarded-packets
Default	0
Configurable	False

Platforms	Supported on all platforms

out-error-packets *number*

Description	Corresponds to ifOutErrors from the IF-MIB
Context	interface name *string* statistics out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-mirror-octets *number*

Description	This counts the number of outgoing mirrored octets
Context	interface name *string* statistics out-mirror-octets *number*
Tree	out-mirror-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

out-mirror-packets *number*

Description	This counts the number of outgoing mirrored packets
Context	interface name *string* statistics out-mirror-packets *number*
Tree	out-mirror-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

out-multicast-packets *number*

Description	Corresponds to ifHCOutMulticastPkts from the IF-MIB
Context	interface name *string* statistics out-multicast-packets *number*
Tree	out-multicast-packets
Default	0
Configurable	False

Platforms	Supported on all platforms

out-octets *number*

Description	Corresponds to ifHCOutOctetsfrom the IF-MIB
Context	interface name *string* statistics out-octets *number*
Tree	out-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	Sum of all transmitted packets, independent of protocol and forwarding type and before discards and errors
Context	interface name *string* statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-unicast-packets *number*

Description	Corresponds to ifHCOutUcastPktsfrom the IF-MIB
Context	interface name *string* statistics out-unicast-packets *number*
Tree	out-unicast-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

subinterface index *number*

Description	The list of subinterfaces (logical interfaces) associated with a physical interface
Context	interface name *string* subinterface index *number*
Tree	subinterface

Configurable	True
Platforms	Supported on all platforms
Max. Elements	4095

index *number*

Description	The index of the subinterface, or logical interface number
Context	interface name *string* subinterface index *number*
Range	0 to 9999
Configurable	True
Platforms	Supported on all platforms

acl

Description	Container for ACL policies applied to the subinterface
Context	interface name *string* subinterface index *number* acl
Tree	acl
Configurable	True
Platforms	Supported on all platforms

input

Description	Container for ACL options that apply to ingress traffic on the subinterface
Context	interface name *string* subinterface index *number* acl input
Tree	input
Configurable	True
Platforms	Supported on all platforms

ipv4-filter *reference*

Description	IPv4 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv4 filter is supported.
Context	interface name *string* subinterface index *number* acl input ipv4-filter *reference*
Tree	ipv4-filter
Reference	acl ipv4-filter name *string*

Configurable	True
Platforms	Supported on all platforms
Max. Elements	2

ipv6-filter *reference*

Description	IPv6 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv6 filter is supported.
Context	interface name *string* subinterface index *number* acl input ipv6-filter *reference*
Tree	ipv6-filter
Reference	acl ipv6-filter name *string*
Configurable	True
Platforms	Supported on all platforms
Max. Elements	2

mac-filter *reference*

Description	MAC ACL filter to be applied on this subinterface On 7220 IXR platforms MAC ACL is mutually exclusive with IP ACLs.
Context	interface name *string* subinterface index *number* acl input mac-filter *reference*
Tree	mac-filter
Reference	acl mac-filter name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1

output

Description	Container for ACL options that apply to egress traffic on the subinterface
Context	interface name *string* subinterface index *number* acl output
Tree	output
Configurable	True
Platforms	Supported on all platforms

ipv4-filter *reference*

Description	IPv4 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv4 filter is supported.
Context	interface name *string* subinterface index *number* acl output ipv4-filter *reference*
Tree	ipv4-filter
Reference	acl ipv4-filter name *string*
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

ipv6-filter *reference*

Description	IPv6 ACL filter(s) to be applied on this subinterface On 7220 and 7250 IXR platforms only a single IPv6 filter is supported.
Context	interface name *string* subinterface index *number* acl output ipv6-filter *reference*
Tree	ipv6-filter
Reference	acl ipv6-filter name *string*
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

mac-filter *reference*

Description	MAC ACL filter to be applied on this subinterface On 7220 IXR platforms MAC ACL is mutually exclusive with IP ACLs.
Context	interface name *string* subinterface index *number* acl output mac-filter *reference*
Tree	mac-filter
Reference	acl mac-filter name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1

admin-state *keyword*

Description	The configured, desired state of the subinterface
Context	interface name *string* subinterface index *number* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

anycast-gw

Description	Enable the anycast-gw context
Context	interface name *string* subinterface index *number* anycast-gw
Tree	anycast-gw
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

anycast-gw-mac *string*

Description	The MAC address of associated to the anycast-gw IP address. 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.
Context	interface name *string* subinterface index *number* anycast-gw anycast-gw-mac *string*
Tree	anycast-gw-mac
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

anycast-gw-mac-origin *keyword*

Description	Origin of the active anycast-gateway MAC address.

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.

Context interface name *string* subinterface index *number* anycast-gw anycast-gw-mac-origin *keyword*

Tree anycast-gw-mac-origin

Options
- configured
- vrid-auto-derived

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

virtual-router-id *number*

Description The Virtual Router Identifier (VRID) value used to auto-derive the anycast-gw-mac in the format 00:00:5E:00:01:VRID.

Context interface name *string* subinterface index *number* anycast-gw virtual-router-id *number*

Tree virtual-router-id

Range 1 to 255

Default 1

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

bridge-table

Description Enable the Bridge Table on the subinterface and configure associated parameters

Context interface name *string* subinterface index *number* bridge-table

Tree bridge-table

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

discard-unknown-src-mac *boolean*

Description Discard frames with unknown source mac addresses. The source mac address of the discarded frame is never learned when this command is enabled.

Context interface name *string* subinterface index *number* bridge-table discard-unknown-src-mac *boolean*

Tree discard-unknown-src-mac

Default false

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-duplication

Description Enter the mac-duplication context

Context interface name *string* subinterface index *number* bridge-table mac-duplication

Tree mac-duplication

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

action *keyword*

Description Action to take on the subinterface upon detecting at least one mac addresses as duplicate on the subinterface. In particular:

Context interface name *string* subinterface index *number* bridge-table mac-duplication action *keyword*

Tree action

Default use-net-instance-action

Options

- use-net-instance-action
- stop-learning
- blackhole
- oper-down

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

duplicate-entries

Description	Enter the duplicate-entries context
Context	interface name *string* subinterface index *number* bridge-table mac-duplication duplicate-entries
Tree	duplicate-entries
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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)*
Tree	hold-down-time-remaining
Units	seconds
Options	• indefinite
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-learning

Description	Enter the mac-learning context
Context	interface name *string* subinterface index *number* bridge-table mac-learning
Tree	mac-learning
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	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.
Context	interface name *string* subinterface index *number* bridge-table mac-learning admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

aging

Description	Enter the aging context
Context	interface name *string* subinterface index *number* bridge-table mac-learning aging
Tree	aging
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	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.
Context	interface name *string* subinterface index *number* bridge-table mac-learning aging admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

learnt-entries

Description	Enter the learnt-entries context
Context	interface name *string* subinterface index *number* bridge-table mac-learning learnt-entries
Tree	learnt-entries
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	macs learnt on the bridging instance
Context	interface name *string* subinterface index *number* bridge-table mac-learning learnt-entries mac address *string*
Tree	mac
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-limit

Description	Bridge Table size and thresholds.
Context	interface name *string* subinterface index *number* bridge-table mac-limit
Tree	mac-limit
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

maximum-entries *number*

Description	Maximum number of mac addresses allowed in the bridge-table.
Context	interface name *string* subinterface index *number* bridge-table mac-limit maximum-entries *number*
Tree	maximum-entries
Range	1 to 8192
Default	250
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

warning-threshold-pct *number*

Description	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%
Context	interface name *string* subinterface index *number* bridge-table mac-limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Range	6 to 100
Default	95
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-table

Description	Enter the mac-table context
Context	interface name *string* subinterface index *number* bridge-table mac-table
Tree	mac-table
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

not-programmed-reason *keyword*

Description	The reason why the mac is not programmed
Context	interface name *string* subinterface index *number* bridge-table mac-table mac address *string* not-programmed-reason *keyword*
Tree	not-programmed-reason
Options	• mac-limit • failed-on-slots • no-destination-index • reserved
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	the type of the mac installed in the fib.
Context	interface name *string* subinterface index *number* bridge-table mac-table mac address *string* type *keyword*
Tree	type
Options	• static

- duplicate
- learnt
- irb-interface
- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description Enter the statistics context

Context interface name *string* subinterface index *number* bridge-table statistics

Tree statistics

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

active-entries *number*

Description The total number of entries that are active on the sub-interface.

Context interface name *string* subinterface index *number* bridge-table statistics active-entries *number*

Tree active-entries

Default 0

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

failed-entries *number*

Description The total number of macs, which have not been programmed on atleast one slot

Context	interface name *string* subinterface index *number* bridge-table statistics failed-entries *number*
Tree	failed-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-type type *keyword*

Description	the type of the mac on the sub-interface.
Context	interface name *string* subinterface index *number* bridge-table statistics mac-type type *keyword*
Tree	mac-type
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	Enter the type context
Context	interface name *string* subinterface index *number* 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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

active-entries *number*

Description	The total number of entries of this type on the sub-interface
Context	interface name *string* subinterface index *number* bridge-table statistics mac-type type *keyword* active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

description *string*

Description	A user-configured description of the interface
Context	interface name *string* subinterface index *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

ethernet-segment-association

Description	ethernet-segment association information.
Context	interface name *string* subinterface index *number* ethernet-segment-association
Tree	ethernet-segment-association
Configurable	False
Platforms	Supported on all platforms

designated-forwarder *boolean*

Description	The value of this leaf indicates if the interface is the designated forwarder for the ethernet-segment on the network-instance.
Context	interface name *string* subinterface index *number* ethernet-segment-association designated-forwarder *boolean*
Tree	designated-forwarder
Default	false
Configurable	False
Platforms	Supported on all platforms

es-managed *boolean*

Description	The value of this leaf indicates if the interface is managed by the ethernet-segment on the network-instance.
Context	interface name *string* subinterface index *number* ethernet-segment-association es-managed *boolean*
Tree	es-managed
Default	false
Configurable	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*

Tree ip-mtu

Range 1280 to 9486

Units bytes

Configurable True

Platforms Supported on all platforms

ipv4

Description IPv4 configuration and state for the subinterface

Context interface name *string* subinterface index *number* ipv4

Tree ipv4

Configurable True

Platforms Supported on all platforms

address ip-prefix *string*

Description The list of IPv4 addresses assigned to the subinterface.

Context interface name *string* subinterface index *number* ipv4 address ip-prefix *string*

Tree address

Configurable True

Platforms Supported on all platforms

Max. Elements 64

ip-prefix *string*

Description The IPv4 address and prefix length in CIDR notation

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

Context interface name *string* subinterface index *number* ipv4 address ip-prefix *string*

Configurable True

Platforms Supported on all platforms

anycast-gw *boolean*

Description This designates the associated IPv4 address as an anycast-gateway IPv4 address of the subinterface.

When this parameter is set to true:

Context interface name *string* subinterface index *number* ipv4 address ip-prefix *string* anycast-gw *boolean*

Tree anycast-gw

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

origin *keyword*

Description The origin of the IPv4 address.

Context interface name *string* subinterface index *number* ipv4 address ip-prefix *string* origin *keyword*

Tree origin

Options

- other
- static
- dhcp
- link-layer
- random

Configurable False

Platforms Supported on all platforms

primary

Description 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.

Context interface name *string* subinterface index *number* ipv4 address ip-prefix *string* primary

Tree primary

Configurable 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.

Context interface name *string* subinterface index *number* ipv4 allow-directed-broadcast *boolean*

Tree allow-directed-broadcast

Default false

Configurable True

Platforms Supported on all platforms

arp

Description Container for the IPv4 ARP protocol

Context interface name *string* subinterface index *number* ipv4 arp

Tree arp

Configurable True

Platforms Supported on all platforms

debug *keyword*

Description	List of events to debug
Context	interface name *string* subinterface index *number* ipv4 arp debug *keyword*
Tree	debug
Options	• messages Capture all arp-request and reply-messages sent and received by the subinterface
Configurable	True
Platforms	Supported on all platforms

duplicate-address-detection *boolean*

Description	If set to true IPv4 Address Conflict Detection per RFC 5227 is performed on the IPv4 address assigned to the subinterface
Context	interface name *string* subinterface index *number* ipv4 arp 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* ipv4 arp evpn
Tree	evpn
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise route-type *keyword*

Description	Enter the advertise list instance
Context	interface name *string* subinterface index *number* ipv4 arp evpn advertise route-type *keyword*
Tree	advertise

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

route-type *keyword*

Description	Controls what type of ARP or ND entries to advertise.
Context	interface name *string* subinterface index *number* ipv4 arp evpn advertise route-type *keyword*
Options	• static • dynamic
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

host-route

Description	Configure which types of ARP or ND entries will be populated in the route-table.
Context	interface name *string* subinterface index *number* ipv4 arp host-route
Tree	host-route
Configurable	True
Platforms	Supported on all platforms

populate route-type *keyword*

Description	Enter the populate list instance
Context	interface name *string* subinterface index *number* ipv4 arp host-route populate route-type *keyword*
Tree	populate
Configurable	True
Platforms	Supported on all platforms

route-type *keyword*

Description	Controls what type of ARP or ND entries generate a host route.

Context	interface name *string* subinterface index *number* ipv4 arp host-route populate route-type *keyword*
Options	• static • dynamic • evpn
Configurable	True
Platforms	Supported on all platforms

datapath-programming *boolean*

Description	When set to true, the host route is programmed in the datapath
Context	interface name *string* subinterface index *number* ipv4 arp host-route populate route-type *keyword* datapath-programming *boolean*
Tree	datapath-programming
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

internal-tags

Description	Configuration and state of internal tags
Context	interface name *string* subinterface index *number* ipv4 arp host-route populate route-type *keyword* internal-tags
Tree	internal-tags
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag-set *reference*

Description	Reference to a tag-set defined under routing-policy
Context	interface name *string* subinterface index *number* ipv4 arp host-route populate route-type *keyword* internal-tags tag-set *reference*
Tree	tag-set
Reference	routing-policy tag-set name *string*
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

learn-unsolicited *boolean*

Description	If set to true an ARP entry should be learned from any received ARP packets.
Context	interface name *string* subinterface index *number* ipv4 arp learn-unsolicited *boolean*
Tree	learn-unsolicited
Default	false
Configurable	True
Platforms	Supported on all platforms

neighbor ipv4-address *string*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string*
Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

ipv4-address *string*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string*
Configurable	True
Platforms	Supported on all platforms

datapath-programming

Description Container for state related to the datapath programming of the ARP or neighbor entry

Context interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* datapath-programming

Tree datapath-programming

Configurable 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 interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* datapath-programming last-failed-complexes *string*

Tree last-failed-complexes

Configurable False

Platforms Supported on all platforms

status *keyword*

Description The status of the ARP or neighbor entry with respect to datapath programming

Context interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* datapath-programming status *keyword*

Tree status

Options

- success

  All linecard complexes have reported that the entry was programmed successfully

- 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

- 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.

Configurable False

Platforms	Supported on all platforms

expiration-time *string*

Description	The date and time when the dynamic ARP entry is set to expire
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* expiration-time *string*
Tree	expiration-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

link-layer-address *string*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	True
Platforms	Supported on all platforms

origin *keyword*

Description	The origin of the ARP entry
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* origin *keyword*
Tree	origin
Options	• other • static • dynamic • evpn
Configurable	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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	10

probe-bridged-subinterfaces *string*

Description	Configure the list of bridged sub-interfaces on the associated MAC-VRF to which the ARP probes are sent.

Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string* probe-bridged-subinterfaces *string*
Tree	probe-bridged-subinterfaces
String Length	5 to 25
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	10

probe-interval *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string* probe-interval *number*
Tree	probe-interval
Range	0 | 5 to 86400
Default	0
Units	seconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Statistics for the Virtual IP address
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string* statistics
Tree	statistics
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-probe-packets *number*

Description	The number of probe packets transmitted for the Virtual IP discovery.
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string* statistics out-probe-packets *number*
Tree	out-probe-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Global statistics for Virtual IP discovery
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-total-probe-packets *number*

Description	The number of total probe packets transmitted for Virtual discovery.
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery statistics out-total-probe-packets *number*
Tree	out-total-probe-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description	The configurable state of the dhcp relay agent
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

dns-resolution

Description	Enter the dns-resolution context
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay dns-resolution
Tree	dns-resolution
Configurable	False
Platforms	Supported on all platforms

server domain *string*

Description	Reports the resolved IP address for server entries using domain names
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay dns-resolution server domain *string*
Tree	server
Configurable	False
Platforms	Supported on all platforms

domain *string*

Description	The server domain name
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay dns-resolution server domain *string*
String Length	1 to 253

Configurable	False
Platforms	Supported on all platforms

last-update *string*

Description	The date and time of the last update of the server IP address
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay dns-resolution server domain *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

resolved-ip-address *(ipv4-address | ipv6-address)*

Description	The resolved IP address of the server domain name. An entry of 0.0.0.0 indicates the server IP cannot be resolved.
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay dns-resolution server domain *string* resolved-ip-address *(ipv4-address | ipv6-address)*
Tree	resolved-ip-address
Configurable	False
Platforms	Supported on all platforms

gi-address *string*

Description	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
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay gi-address *string*
Tree	gi-address
Configurable	True
Platforms	Supported on all platforms

network-instance *reference*

Description	network instance to relay dhcp packets to

Context	interface name *string* subinterface index *number* ipv4 dhcp-relay network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	The reason causing the dhcp relay agent to go into operational down state
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay oper-down-reason *keyword*
Tree	oper-down-reason
Options	• dhcp-relay-admin-down • sub-interface-oper-down • all-dhcp-servers-unreachable-within-net-instance • gi-address-not-matching-relay-sub-interface-ipv4-addresses • no-valid-ipv4-address-on-sub-interface
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	The operational state of the dhcp relay agent
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay 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.

Configurable False

Platforms Supported on all platforms

option *keyword*

Description List of option82 suboptions to insert into relayed packet towards DHCPv4 server

Context interface name *string* subinterface index *number* ipv4 dhcp-relay option *keyword*

Tree option

Options

- 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

- remote-id

Enable option 82 suboption 2 remote-id into relayed packet towards DHCPv4 server, format=client MAC address

Configurable	True
Platforms	Supported on all platforms

server *(ipv4-address | domain-name)*

Description	List of the DHCPv4 servers that the DHCPv4 relay function will relay DHCPv4 packets to/from
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay server *(ipv4-address | domain-name)*
Tree	server
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms
Max. Elements	8
Min. Elements	1

statistics

Description	Enter the statistics context
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

client-packets-discarded *number*

Description	Total discarded dhcp packets from dhcp client(s) towards DHCP server(s)
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics client-packets-discarded *number*
Tree	client-packets-discarded
Default	0
Configurable	False
Platforms	Supported on all platforms

client-packets-received *number*

Description	Total received dhcp packets from dhcp client(s) for DHCP Relay
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics client-packets-received *number*
Tree	client-packets-received
Default	0
Configurable	False
Platforms	Supported on all platforms

client-packets-relayed *number*

Description	Total relayed dhcp packets from dhcp client(s) towards DHCP server(s)
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics client-packets-relayed *number*
Tree	client-packets-relayed
Default	0
Configurable	False
Platforms	Supported on all platforms

server-packets-discarded *number*

Description	Total discarded dhcp packets from DHCP server(s) towards dhcp client(s)
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics server-packets-discarded *number*
Tree	server-packets-discarded
Default	0
Configurable	False
Platforms	Supported on all platforms

server-packets-received *number*

Description	Total received dhcp packets from DHCP server(s) for DHCP Relay
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics server-packets-received *number*
Tree	server-packets-received
Default	0

Configurable	False
Platforms	Supported on all platforms

server-packets-relayed *number*

Description	Total relayed dhcp packets from DHCP server(s) towards dhcp client(s)
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics server-packets-relayed *number*
Tree	server-packets-relayed
Default	0
Configurable	False
Platforms	Supported on all platforms

trace-options

Description	Container for tracing DHCPv4 relay operations on the subinterface
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay 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-relay 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

use-gi-addr-as-src-ip-addr *boolean*

Description	When this is set, the configured giaddress will be used as source ip address.

Context	interface name *string* subinterface index *number* ipv4 dhcp-relay use-gi-addr-as-src-ip-addr *boolean*
Tree	use-gi-addr-as-src-ip-addr
Default	false
Configurable	True
Platforms	Supported on all platforms

dhcp-server

Description	Enable the dhcp-server context
Context	interface name *string* subinterface index *number* ipv4 dhcp-server
Tree	dhcp-server
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enables/Disables DHCP server function on subinterface
Context	interface name *string* subinterface index *number* ipv4 dhcp-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

oper-state *keyword*

Description	Details if the dhcp server is operationally available
Context	interface name *string* subinterface index *number* ipv4 dhcp-server 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.

Configurable False

Platforms Supported on all platforms

statistics

Description Container for subinterface statistics, counting IPv4 packets or IPv6 packets or both dependending on the context

Context interface name *string* subinterface index *number* ipv4 statistics

Tree	statistics
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 filer drop action.
Context	interface name *string* subinterface index *number* ipv4 statistics in-discarded-packets *number*
Tree	in-discarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-error-packets *number*

Description	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 ipIfStats InNoRoutes ipIfStatsInAddrErrors ipIfStatsInUnknownProtos ipIfStats InTruncatedPkts
Context	interface name *string* subinterface index *number* ipv4 statistics in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-octets *number*

Description	The number of octets in input IPv4 packets or IPv6 packets or both received on this subinterface and counted in in-forwarded-packets
Context	interface name *string* subinterface index *number* ipv4 statistics in-forwarded-octets *number*
Tree	in-forwarded-octets

Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 statistics in-forwarded-packets *number*
Tree	in-forwarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-matched-ra-packets *number*

Description	The total number of IPv6 packets matched with applied RA-Guard policy
Context	interface name *string* subinterface index *number* ipv4 statistics in-matched-ra-packets *number*
Tree	in-matched-ra-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-octets *number*

Description	The total number of octets received in input packets, counting transit and terminating traffic
Context	interface name *string* subinterface index *number* ipv4 statistics in-octets *number*
Tree	in-octets
Default	0

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-packets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv4 statistics in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-terminated-octets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv4 statistics in-terminated-octets *number*
Tree	in-terminated-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-terminated-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 statistics in-terminated-packets *number*
Tree	in-terminated-packets

Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-clear *string*

Description	Timestamp of the last time the subinterface counters were cleared.
Context	interface name *string* subinterface index *number* ipv4 statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-discarded-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 statistics out-discarded-packets *number*
Tree	out-discarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-error-packets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv4 statistics out-error-packets *number*
Tree	out-error-packets
Default	0

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-octets *number*

Description	The number of octets in transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
Context	interface name *string* subinterface index *number* ipv4 statistics out-forwarded-octets *number*
Tree	out-forwarded-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-packets *number*

Description	The number of transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
Context	interface name *string* subinterface index *number* ipv4 statistics out-forwarded-packets *number*
Tree	out-forwarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-octets *number*

Description	The total number of octets in IPv4 packets or IPv6 packets or both delivered to the lower layers for transmission
Context	interface name *string* subinterface index *number* ipv4 statistics out-octets *number*
Tree	out-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-originated-octets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv4 statistics out-originated-octets *number*
Tree	out-originated-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-originated-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv4 statistics out-originated-packets *number*
Tree	out-originated-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-packets *number*

Description	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>
Context	interface name *string* subinterface index *number* ipv4 statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6

Description	IPv6 configuration and state for the subinterface
Context	interface name *string* subinterface index *number* ipv6
Tree	ipv6
Configurable	True
Platforms	Supported on all platforms

address ip-prefix *string*

Description	The list of IPv6 addresses assigned to the subinterface.
Context	interface name *string* subinterface index *number* ipv6 address ip-prefix *string*
Tree	address
Configurable	True
Platforms	Supported on all platforms
Max. Elements	18

ip-prefix *string*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 address ip-prefix *string*
Configurable	True
Platforms	Supported on all platforms

anycast-gw *boolean*

Description	This designates the associated IPv6 address as an anycast-gateway IPv6 address of the subinterface. When this parameter is set to true:
Context	interface name *string* subinterface index *number* ipv6 address ip-prefix *string* anycast-gw *boolean*
Tree	anycast-gw

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

origin *keyword*

Description The origin of the IPv6 address

Context interface name *string* subinterface index *number* ipv6 address ip-prefix *string* origin *keyword*

Tree origin

Options

- other
- static
- dhcp
- link-layer
- random

Configurable False

Platforms Supported on all platforms

primary

Description 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.

The primary address is used as the source address for locally originated broadcast and multicast packets sent out the subinterface.

Context interface name *string* subinterface index *number* ipv6 address ip-prefix *string* primary

Tree primary

Configurable True

Platforms Supported on all platforms

status *keyword*

Description The status of an IPv6 address

Context interface name *string* subinterface index *number* ipv6 address ip-prefix *string* status *keyword*

Tree status

Options
- preferred
- deprecated
- invalid
- inaccessible
- unknown
- tentative
- duplicate
- optimistic

Configurable False

Platforms Supported on all platforms

type *keyword*

Description Specifies the explicit type of the IPv6 address being assigned to the subinterface

By default, addresses are assumed to be global unicast. Where a link-local address is to be explicitly configured, this leaf should be set to link-local.

Context interface name *string* subinterface index *number* ipv6 address ip-prefix *string* type *keyword*

Tree type

Default global-unicast

Options
- global-unicast

  The IPv6 address is a global unicast address type and must be in the format defined in RFC 4291 section 2.4.
- link-local-unicast

  The IPv6 address is a Link-Local unicast address type and must be in the format defined in RFC 4291 section 2.4.

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description Enable/disable IPv6 on the subinterface

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:

Context interface name *string* subinterface index *number* ipv6 admin-state *keyword*

Tree admin-state

Default disable

Options
- enable
- disable

Configurable True

Platforms Supported on all platforms

dhcp-client

Description Container for options related to DHCPv6

Context interface name *string* subinterface index *number* ipv6 dhcp-client

Tree dhcp-client

Configurable True

Platforms Supported on all platforms

trace-options

Description Container for tracing DHCPv6 operations on the subinterface

Context interface name *string* subinterface index *number* ipv6 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* ipv6 dhcp-client trace-options trace *keyword*

Tree trace

Options
- messages

  Capture all DHCPv6 messages sent and received by the subinterface

Configurable True

Platforms	Supported on all platforms

dhcp-relay

Description	Container for options related to DHCPv6 relay
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay
Tree	dhcp-relay
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	The configurable state of the dhcp relay agent
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

dns-resolution

Description	Enter the dns-resolution context
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay dns-resolution
Tree	dns-resolution
Configurable	False
Platforms	Supported on all platforms

server domain *string*

Description	Reports the resolved IP address for server entries using domain names
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay dns-resolution server domain *string*

Tree	server
Configurable	False
Platforms	Supported on all platforms

domain *string*

Description	The server domain name
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay dns-resolution server domain *string*
String Length	1 to 253
Configurable	False
Platforms	Supported on all platforms

last-update *string*

Description	The date and time of the last update of the server IP address
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay dns-resolution server domain *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

resolved-ip-address *(ipv4-address | ipv6-address)*

Description	The resolved IP address of the server domain name. An entry of 0.0.0.0 indicates the server IP cannot be resolved.
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay dns-resolution server domain *string* resolved-ip-address *(ipv4-address | ipv6-address)*
Tree	resolved-ip-address
Configurable	False
Platforms	Supported on all platforms

network-instance *reference*

Description	network instance to relay dhcp packets to

Context	interface name *string* subinterface index *number* ipv6 dhcp-relay network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	The reason causing the dhcp relay agent to go into operational down state
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay oper-down-reason *keyword*
Tree	oper-down-reason
Options	• dhcp-relay-admin-down • sub-interface-oper-down • all-dhcpv6-servers-unreachable-within-net-instance • source-address-not-matching-relay-sub-interface-ipv6-addresses • no-valid-ipv6-address-on-sub-interface
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	The operational state of the dhcp relay agent
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay 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.

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

Configurable	True
Platforms	Supported on all platforms

server *(ipv6-address | domain-name)*

Description	List of the DHCPv6 servers that the DHCPv6 relay function will relay DHCPv6 packets to/from
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay server *(ipv6-address | domain-name)*
Tree	server
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms
Max. Elements	8
Min. Elements	1

source-address *string*

Description	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
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay source-address *string*
Tree	source-address
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

client-packets-discarded *number*

Description	Total discarded dhcp packets from dhcp client(s) towards DHCP server(s)
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics client-packets-discarded *number*
Tree	client-packets-discarded
Default	0
Configurable	False
Platforms	Supported on all platforms

client-packets-received *number*

Description	Total received dhcp packets from dhcp client(s) for DHCP Relay
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics client-packets-received *number*
Tree	client-packets-received
Default	0
Configurable	False
Platforms	Supported on all platforms

client-packets-relayed *number*

Description	Total relayed dhcp packets from dhcp client(s) towards DHCP server(s)
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics client-packets-relayed *number*
Tree	client-packets-relayed
Default	0
Configurable	False
Platforms	Supported on all platforms

server-packets-discarded *number*

Description	Total discarded dhcp packets from DHCP server(s) towards dhcp client(s)
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics server-packets-discarded *number*
Tree	server-packets-discarded
Default	0

Configurable	False
Platforms	Supported on all platforms

server-packets-received *number*

Description	Total received dhcp packets from DHCP server(s) for DHCP Relay
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics server-packets-received *number*
Tree	server-packets-received
Default	0
Configurable	False
Platforms	Supported on all platforms

server-packets-relayed *number*

Description	Total relayed dhcp packets from DHCP server(s) towards dhcp client(s)
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics server-packets-relayed *number*
Tree	server-packets-relayed
Default	0
Configurable	False
Platforms	Supported on all platforms

trace-options

Description	Container for tracing DHCPv6 relay operations on the subinterface
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay 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* ipv6 dhcp-relay trace-options trace *keyword*

Tree	trace
Options	• messages Capture all DHCPv6 messages sent and received by the subinterface
Configurable	True
Platforms	Supported on all platforms

dhcpv6-server

Description	Enable the dhcpv6-server context
Context	interface name *string* subinterface index *number* ipv6 dhcpv6-server
Tree	dhcpv6-server
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enables/Disables DHCPv6 server function on subinterface
Context	interface name *string* subinterface index *number* ipv6 dhcpv6-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

oper-state *keyword*

Description	Details if the dhcp server is operationally available
Context	interface name *string* subinterface index *number* ipv6 dhcpv6-server 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.

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

advertise route-type *keyword*

Description	Enter the advertise list instance
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery evpn advertise route-type *keyword*
Tree	advertise
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

route-type *keyword*

Description	Controls what type of ARP or ND entries to advertise.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery evpn advertise route-type *keyword*
Options	• static • dynamic
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

host-route

Description	Configure which types of ARP or ND entries will be populated in the route-table.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery host-route
Tree	host-route
Configurable	True
Platforms	Supported on all platforms

populate route-type *keyword*

Description	Enter the populate list instance
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery host-route populate route-type *keyword*
Tree	populate

Configurable	True
Platforms	Supported on all platforms

route-type *keyword*

Description	Controls what type of ARP or ND entries generate a host route.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery host-route populate route-type *keyword*
Options	• static • dynamic • evpn
Configurable	True
Platforms	Supported on all platforms

datapath-programming *boolean*

Description	When set to true, the host route is programmed in the datapath
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery host-route populate route-type *keyword* datapath-programming *boolean*
Tree	datapath-programming
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

internal-tags

Description	Configuration and state of internal tags
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery host-route populate route-type *keyword* internal-tags
Tree	internal-tags
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag-set *reference*

Description	Reference to a tag-set defined under routing-policy
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery host-route populate route-type *keyword* internal-tags tag-set *reference*
Tree	tag-set
Reference	routing-policy tag-set name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

learn-unsolicited *keyword*

Description	Sets if neighbors should be learned from unsolicited neighbor advertisements for global or link local addresses or both.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery learn-unsolicited *keyword*
Tree	learn-unsolicited
Default	none
Options	• none • global • link-local • both
Configurable	True
Platforms	Supported on all platforms

limit

Description	Container for the configuration of Neighbor-Discovery limit
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery limit
Tree	limit
Configurable	True
Platforms	Supported on all platforms

log-only *boolean*

Description	Generate only a log message when limit is reached When set to true, neighbor entries are still being learned after exceeding the max-entries limit.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery limit log-only *boolean*
Tree	log-only
Default	false
Configurable	True
Platforms	Supported on all platforms

max-entries *number*

Description	The maximum number of neighbor entries allowed on the subinterface If not configured, the amount of neighbor entries on the subinterface is only limited by the total amount of entries supported by the router.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery limit max-entries *number*
Tree	max-entries
Configurable	True
Platforms	Supported on all platforms

warning-threshold-pct *number*

Description	Threshold percentage of the configured maximum number of entries When exceeded, an event is triggered.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Range	1 to 100
Default	90
Units	percent
Configurable	True
Platforms	Supported on all platforms

neighbor ipv6-address *string*

Description	List of static and dynamic ND cache entries that map an IPv6 address to a MAC address
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string*
Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

ipv6-address *string*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string*
Configurable	True
Platforms	Supported on all platforms

current-state *keyword*

Description	The Neighbor Unreachability Detection state
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* current-state *keyword*
Tree	current-state
Options	• incomplete • reachable • stale • delay • probe
Configurable	False
Platforms	Supported on all platforms

datapath-programming

Description	Container for state related to the datapath programming of the ARP or neighbor entry

Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* datapath-programming
Tree	datapath-programming
Configurable	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	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* datapath-programming last-failed-complexes *string*
Tree	last-failed-complexes
Configurable	False
Platforms	Supported on all platforms

status *keyword*

Description	The status of the ARP or neighbor entry with respect to datapath programming
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* datapath-programming status *keyword*
Tree	status
Options	• success All linecard complexes have reported that the entry was programmed successfully • 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 • 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.
Configurable	False
Platforms	Supported on all platforms

is-router *boolean*

Description	Indicates that the neighbor node claims to be a router (R bit in the Neighbor Advertisement message)
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* is-router *boolean*
Tree	is-router
Configurable	False
Platforms	Supported on all platforms

link-layer-address *string*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	True
Platforms	Supported on all platforms

next-state-time *string*

Description	The date and time when the neighbor state is expected to transition to the next state
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* next-state-time *string*
Tree	next-state-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

origin *keyword*

Description	The origin of the neighbor cache entry.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* origin *keyword*
Tree	origin

Options
- other
- static
- dynamic
- evpn

Configurable False

Platforms Supported on all platforms

proxy-nd *boolean*

Description When set to true, the router replies with its own MAC to Neighbor Solicitations destined to any host.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery proxy-nd *boolean*

Tree proxy-nd

Default false

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

reachable-time *number*

Description 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.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery reachable-time *number*

Tree reachable-time

Range 30 to 3600

Default 30

Units seconds

Configurable True

Platforms Supported on all platforms

stale-time *number*

Description 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.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery stale-time *number*

Tree stale-time

Range 60 to 65535

Default 14400

Units seconds

Configurable True

Platforms Supported on all platforms

virtual-ipv6-discovery

Description 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.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery

Tree virtual-ipv6-discovery

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address ipv6-address *string*

Description The list of virtual IPv6 addresses to be discovered on the subinterface.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string*

Tree address

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	10

probe-interval *number*

Description 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.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string* probe-interval *number*

Tree probe-interval

Range 0 | 5 to 86400

Default 0

Units seconds

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description Statistics for the Virtual IP address

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string* statistics

Tree statistics

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-probe-packets *number*

Description The number of probe packets transmitted for the Virtual IP discovery.

Context interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string* statistics out-probe-packets *number*

Tree out-probe-packets

Default 0

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Global statistics for Virtual IP discovery
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-total-probe-packets *number*

Description	The number of total probe packets transmitted for Virtual discovery.
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery statistics out-total-probe-packets *number*
Tree	out-total-probe-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-advertisement

Description	Container for configuring IPv6 router discovery options
Context	interface name *string* subinterface index *number* ipv6 router-advertisement
Tree	router-advertisement
Configurable	True
Platforms	Supported on all platforms

debug *keyword*

Description List of events to debug

Context interface name *string* subinterface index *number* ipv6 router-advertisement debug *keyword*

Tree debug

Options

- messages

  Capture all router-solicitation and router-advertisement messages sent and received by the subinterface

Configurable True

Platforms Supported on all platforms

router-role

Description IPv6 router advertisement options that apply when the role of the interface is a router interface.

Context interface name *string* subinterface index *number* ipv6 router-advertisement router-role

Tree router-role

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description Administratively enable or disable the sending of router advertisements on the subinterface.

Context interface name *string* subinterface index *number* ipv6 router-advertisement router-role admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

current-hop-limit *number*

Description The current hop limit to advertise in the router advertisement messages.

Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role current-hop-limit *number*
Tree	current-hop-limit
Default	64
Configurable	True
Platforms	Supported on all platforms

ip-mtu *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role ip-mtu *number*
Tree	ip-mtu
Range	1280 to 9486
Configurable	True
Platforms	Supported on all platforms

managed-configuration-flag *boolean*

Description	When this is set the M-bit is set in the router advertisement messages, indicating that hosts should use DHCPv6 to obtain IPv6 addresses.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role managed-configuration-flag *boolean*
Tree	managed-configuration-flag
Default	false
Configurable	True
Platforms	Supported on all platforms

max-advertisement-interval *number*

Description	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.

Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role max-advertisement-interval *number*
Tree	max-advertisement-interval
Range	4 to 1800
Default	600
Units	seconds
Configurable	True
Platforms	Supported on all platforms

min-advertisement-interval *number*

Description	The minimum 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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role min-advertisement-interval *number*
Tree	min-advertisement-interval
Range	3 to 1350
Default	200
Units	seconds
Configurable	True
Platforms	Supported on all platforms

other-configuration-flag *boolean*

Description	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).
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role other-configuration-flag *boolean*
Tree	other-configuration-flag
Default	false
Configurable	True
Platforms	Supported on all platforms

prefix ipv6-prefix *string*

Description	The list of IPv6 prefixes to advertise in the router advertisement messages.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role prefix ipv6-prefix *string*
Tree	prefix
Configurable	True
Platforms	Supported on all platforms
Max. Elements	16

ipv6-prefix *string*

Description	An IPv6 global unicast address prefix.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role prefix ipv6-prefix *string*
Configurable	True
Platforms	Supported on all platforms

autonomous-flag *boolean*

Description	When this is set in the prefix information option hosts can use the prefix for stateless address autoconfiguration (SLAAC).
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role prefix ipv6-prefix *string* autonomous-flag *boolean*
Tree	autonomous-flag
Default	true
Configurable	True
Platforms	Supported on all platforms

on-link-flag *boolean*

Description	When this is set in the prefix information option hosts can use the prefix for on-link determination.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role prefix ipv6-prefix *string* on-link-flag *boolean*
Tree	on-link-flag
Default	true

Configurable	True
Platforms	Supported on all platforms

preferred-lifetime *(keyword | number)*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role prefix ipv6-prefix *string* preferred-lifetime *(keyword | number)*
Tree	preferred-lifetime
Default	604800
Units	seconds
Options	• infinite
Configurable	True
Platforms	Supported on all platforms

valid-lifetime *(keyword | number)*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role prefix ipv6-prefix *string* valid-lifetime *(keyword | number)*
Tree	valid-lifetime
Default	2592000
Units	seconds
Options	• infinite
Configurable	True
Platforms	Supported on all platforms

reachable-time *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role reachable-time *number*

Tree	reachable-time
Range	0 to 3600000
Default	0
Configurable	True
Platforms	Supported on all platforms

retransmit-time *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role retransmit-time *number*
Tree	retransmit-time
Range	0 to 1800000
Default	0
Configurable	True
Platforms	Supported on all platforms

router-lifetime *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 router-advertisement router-role router-lifetime *number*
Tree	router-lifetime
Range	0 to 9000
Default	1800
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Container for subinterface statistics, counting IPv4 packets or IPv6 packets or both dependending on the context

Context	interface name *string* subinterface index *number* ipv6 statistics
Tree	statistics
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 filer drop action.
Context	interface name *string* subinterface index *number* ipv6 statistics in-discarded-packets *number*
Tree	in-discarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-error-packets *number*

Description	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 ipIfStats InNoRoutes ipIfStatsInAddrErrors ipIfStatsInUnknownProtos ipIfStats InTruncatedPkts
Context	interface name *string* subinterface index *number* ipv6 statistics in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-octets *number*

Description	The number of octets in input IPv4 packets or IPv6 packets or both received on this subinterface and counted in in-forwarded-packets
Context	interface name *string* subinterface index *number* ipv6 statistics in-forwarded-octets *number*

Tree	in-forwarded-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 statistics in-forwarded-packets *number*
Tree	in-forwarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-matched-ra-packets *number*

Description	The total number of IPv6 packets matched with applied RA-Guard policy
Context	interface name *string* subinterface index *number* ipv6 statistics in-matched-ra-packets *number*
Tree	in-matched-ra-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-octets *number*

Description	The total number of octets received in input packets, counting transit and terminating traffic
Context	interface name *string* subinterface index *number* ipv6 statistics in-octets *number*
Tree	in-octets

Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-packets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv6 statistics in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-terminated-octets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv6 statistics in-terminated-octets *number*
Tree	in-terminated-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-terminated-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 statistics in-terminated-packets *number*

Tree	in-terminated-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-clear *string*

Description	Timestamp of the last time the subinterface counters were cleared.
Context	interface name *string* subinterface index *number* ipv6 statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-discarded-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 statistics out-discarded-packets *number*
Tree	out-discarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-error-packets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv6 statistics out-error-packets *number*
Tree	out-error-packets

Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-octets *number*

Description	The number of octets in transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
Context	interface name *string* subinterface index *number* ipv6 statistics out-forwarded-octets *number*
Tree	out-forwarded-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-packets *number*

Description	The number of transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
Context	interface name *string* subinterface index *number* ipv6 statistics out-forwarded-packets *number*
Tree	out-forwarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-octets *number*

Description	The total number of octets in IPv4 packets or IPv6 packets or both delivered to the lower layers for transmission
Context	interface name *string* subinterface index *number* ipv6 statistics out-octets *number*
Tree	out-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-originated-octets *number*

Description	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
Context	interface name *string* subinterface index *number* ipv6 statistics out-originated-octets *number*
Tree	out-originated-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-originated-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* ipv6 statistics out-originated-packets *number*
Tree	out-originated-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-packets *number*

Description	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>
Context	interface name *string* subinterface index *number* ipv6 statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

l2-mtu *number*

Description	Layer-2 MTU of the subinterface in bytes. Includes the Ethernet header and VLAN tags, and excludes 4-bytes FCS. 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. The default value for a subinterface is taken from /system/mtu/default-l2-mtu. The L2 MTU is only configurable for bridged subinterfaces. 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. All other systems support a maximum L2 MTU of 9500 and minimum of 1500 bytes.
Context	interface name *string* subinterface index *number* l2-mtu *number*
Tree	l2-mtu
Range	1450 to 9500
Units	bytes
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-change *string*

Description	The date and time of the most recent change to the subinterface state
Context	interface name *string* subinterface index *number* last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

local-mirror-destination

Description	Container for options related to local mirror destination
Context	interface name *string* subinterface index *number* local-mirror-destination
Tree	local-mirror-destination
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

admin-state *keyword*

Description The configurable state of the local mirror destination

Context interface name *string* subinterface index *number* local-mirror-destination admin-state *keyword*

Tree admin-state

Default enable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms except 7250 IXR-6e/10e

oper-state *keyword*

Description The operational state of the local mirror destination

Context interface name *string* subinterface index *number* local-mirror-destination 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.

Configurable False

Platforms Supported on all platforms except 7250 IXR-6e/10e

mpls

Description Container for MPLS configuration and state at the subinterface level

Context interface name *string* subinterface index *number* mpls

Tree mpls

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description Container for MPLS-specific subinterface statistics

Context interface name *string* subinterface index *number* mpls statistics

Tree statistics

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-discarded-packets *number*

Description The total number of MPLS packets that were dropped because they were received with forwarded top label having an MPLS TTL value of 1

Context	interface name *string* subinterface index *number* mpls statistics in-discarded-packets *number*
Tree	in-discarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-error-packets *number*

Description	The total number of MPLS packets that were dropped because they were received with errors that include:
Context	interface name *string* subinterface index *number* mpls statistics in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-octets *number*

Description	The number of octets in MPLS packets received on this subinterface that were attempted to be forwarded to another IP or MPLS interface
Context	interface name *string* subinterface index *number* mpls statistics in-forwarded-octets *number*
Tree	in-forwarded-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-packets *number*

Description	The number of MPLS packets received on this subinterface that were attempted to be forwarded to another IP or MPLS interface
Context	interface name *string* subinterface index *number* mpls statistics in-forwarded-packets *number*
Tree	in-forwarded-packets
Default	0

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-octets *number*

Description	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.
Context	interface name *string* subinterface index *number* mpls statistics in-octets *number*
Tree	in-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-packets *number*

Description	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
Context	interface name *string* subinterface index *number* mpls statistics in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-clear *string*

Description	Timestamp of the last time the subinterface MPLS counters were cleared.
Context	interface name *string* subinterface index *number* mpls statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-error-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* mpls statistics out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-octets *number*

Description	The number of octets in MPLS packets transmitted on this subinterface. This does not include IP packets that resulted from a PHP pop operation.
Context	interface name *string* subinterface index *number* mpls statistics out-forwarded-octets *number*
Tree	out-forwarded-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-packets *number*

Description	The number of MPLS packets transmitted on this subinterface. This does not include IP packets that resulted from a PHP pop operation.
Context	interface name *string* subinterface index *number* mpls statistics out-forwarded-packets *number*
Tree	out-forwarded-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-octets *number*

Description	The total number of octets in output MPLS packets transmitted.

Context	interface name *string* subinterface index *number* mpls statistics out-octets *number*
Tree	out-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-originated-octets *number*

Description	The number of octets in MPLS packets that were originated by this router.
Context	interface name *string* subinterface index *number* mpls statistics out-originated-octets *number*
Tree	out-originated-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-originated-packets *number*

Description	The number of MPLS packets that were originated by this router.
Context	interface name *string* subinterface index *number* mpls statistics out-originated-packets *number*
Tree	out-originated-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-packets *number*

Description	The total number of output MPLS packets transmitted. This equals out-originated-packets + out-forwarded-packets
Context	interface name *string* subinterface index *number* mpls statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls-mtu *number*

Description	MPLS MTU of the subinterface in bytes, including the transmitted label stack. 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. The default MPLS MTU for a subinterface is taken from /system/mtu/default-mpls-mtu. The MPLS MTU is not configurable for subinterfaces of loopback interfaces. Each 7250 IXR IMM supports a maximum of 4 different MPLS MTU values.
Context	interface name *string* subinterface index *number* mpls-mtu *number*
Tree	mpls-mtu
Range	1284 to 9496
Units	bytes
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	The system assigned name of the subinterface. It is formed by taking the base interface name and appending a dot (.) and the subinterface index number. For example, ethernet-2/1.0
Context	interface name *string* subinterface index *number* name *string*
Tree	name
Configurable	False
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	The first (and possibly only) reason for the subinterface being operationally down
Context	interface name *string* subinterface index *number* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• admin-disabled • port-down

- 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 Enable 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

Tree input

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

classifiers

Description Enter the classifiers context

Context interface name *string* subinterface index *number* qos input classifiers

Tree classifiers

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

default-drop-probability *keyword*

Description The default drop-probability for packets arriving on this subinterface that do not match any classification rule.

Context interface name *string* subinterface index *number* qos input classifiers default-drop-probability *keyword*

Tree default-drop-probability

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.

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

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

Description The default forwarding class for packets arriving on this subinterface that do not match any classification rule.

Context interface name *string* subinterface index *number* qos input classifiers default-forwarding-class *(reference | keyword)*

Tree default-forwarding-class

Options

- fc0
  System default forwarding-class name for the FC with index 0
- fc1
  System default forwarding-class name for the FC with index 1
- fc2
  System default forwarding-class name for the FC with index 2
- fc3
  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

dot1p-policy *reference*

Description	Reference to the name of a dot1p mapping policy.
Context	interface name *string* subinterface index *number* qos input classifiers dot1p-policy *reference*
Tree	dot1p-policy
Reference	qos classifiers dot1p-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dscp-policy *reference*

Description	Reference to the name of a DSCP mapping policy that applies to both IPv4 and IPv6 traffic.
Context	interface name *string* subinterface index *number* qos input classifiers dscp-policy *reference*
Tree	dscp-policy
Reference	qos classifiers dscp-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

ipv4-dscp-policy *reference*

Description	Reference to the name of a DSCP mapping policy that applies only to IPv4 traffic.
Context	interface name *string* subinterface index *number* qos input classifiers ipv4-dscp-policy *reference*
Tree	ipv4-dscp-policy
Reference	qos classifiers dscp-policy name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-dscp-policy *reference*

Description	Reference to the name of a DSCP mapping policy that applies only to IPv6 traffic.

Context	interface name *string* subinterface index *number* qos input classifiers ipv6-dscp-policy *reference*
Tree	ipv6-dscp-policy
Reference	qos classifiers dscp-policy name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls-traffic-class-policy *reference*

Description	Reference to the name of an MPLS traffic-class mapping policy
Context	interface name *string* subinterface index *number* qos input classifiers mpls-traffic-class-policy *reference*
Tree	mpls-traffic-class-policy
Reference	qos classifiers mpls-traffic-class-policy name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multifield

Description	Enter the multifield context
Context	interface name *string* subinterface index *number* qos input classifiers multifield
Tree	multifield
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-policy *reference*

Description	Reference to the name of an IPv4 multifield classifier policy.
Context	interface name *string* subinterface index *number* qos input classifiers multifield ipv4-policy *reference*
Tree	ipv4-policy
Reference	qos classifiers multifield ipv4-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-policy *reference*

Description	Reference to the name of an IPv6 multifield classifier policy.
Context	interface name *string* subinterface index *number* qos input classifiers multifield ipv6-policy *reference*
Tree	ipv6-policy
Reference	qos classifiers multifield ipv6-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

policer-templates

Description	acl policers
Context	interface name *string* subinterface index *number* qos input policer-templates
Tree	policer-templates
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

policer-template *reference*

Description	The name of the policer template applied to input traffic on the subinterface
Context	interface name *string* subinterface index *number* qos input policer-templates policer-template *reference*
Tree	policer-template
Reference	qos policer-templates policer-template name *string*
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 except 7220 IXR-D1

rewrite-rules

Description	Enter the rewrite-rules context
Context	interface name *string* subinterface index *number* qos output rewrite-rules
Tree	rewrite-rules
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

dot1p-policy *reference*

Description	Reference to the name of a dot1p rewrite policy.
Context	interface name *string* subinterface index *number* qos output rewrite-rules dot1p-policy *reference*
Tree	dot1p-policy
Reference	qos rewrite-rules dot1p-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dscp-policy *reference*

Description	Reference to the name of a DSCP rewrite-rule policy that applies to both IPv4 and IPv6 traffic.
Context	interface name *string* subinterface index *number* qos output rewrite-rules dscp-policy *reference*
Tree	dscp-policy
Reference	qos rewrite-rules dscp-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

ipv4-dscp-policy *reference*

Description	Reference to the name of a DSCP rewrite-rule policy that applies only to IPv4 traffic.
Context	interface name *string* subinterface index *number* qos output rewrite-rules ipv4-dscp-policy *reference*
Tree	ipv4-dscp-policy

Reference	qos rewrite-rules dscp-policy name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-dscp-policy *reference*

Description	Reference to the name of a DSCP rewrite-rule policy that applies only to IPv6 traffic.
Context	interface name *string* subinterface index *number* qos output rewrite-rules ipv6-dscp-policy *reference*
Tree	ipv6-dscp-policy
Reference	qos rewrite-rules dscp-policy name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls-traffic-class-policy *reference*

Description	Reference to the name of an MPLS traffic-class rewrite-rule policy.
Context	interface name *string* subinterface index *number* qos output rewrite-rules mpls-traffic-class-policy *reference*
Tree	mpls-traffic-class-policy
Reference	qos rewrite-rules mpls-traffic-class-policy name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ra-guard

Description	Enable the ra-guard context
Context	interface name *string* subinterface index *number* ra-guard
Tree	ra-guard
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

policy *reference*

Description	Reference to RA Guard Policy to apply to the associated subinterface

Context	interface name *string* subinterface index *number* ra-guard policy *reference*
Tree	policy
Reference	system ra-guard-policy name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vlan-list vlan-id *number*

Description	List of VLAN IDs that the RA policy should be matched against
Context	interface name *string* subinterface index *number* ra-guard vlan-list vlan-id *number*
Tree	vlan-list
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vlan-id *number*

Description	Enter the vlan-id context
Context	interface name *string* subinterface index *number* ra-guard vlan-list vlan-id *number*
Range	0 to 4095
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Container for subinterface statistics, counting IPv4 packets or IPv6 packets or both dependending on the context
Context	interface name *string* subinterface index *number* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

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 filer drop action.
Context	interface name *string* subinterface index *number* statistics in-discarded-packets *number*
Tree	in-discarded-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-error-packets *number*

Description	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 ipIfStats InNoRoutes ipIfStatsInAddrErrors ipIfStatsInUnknownProtos ipIfStats InTruncatedPkts
Context	interface name *string* subinterface index *number* statistics in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-forwarded-octets *number*

Description	The number of octets in input IPv4 packets or IPv6 packets or both received on this subinterface and counted in in-forwarded-packets
Context	interface name *string* subinterface index *number* statistics in-forwarded-octets *number*
Tree	in-forwarded-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-forwarded-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* statistics in-forwarded-packets *number*
Tree	in-forwarded-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-matched-ra-packets *number*

Description	The total number of IPv6 packets matched with applied RA-Guard policy
Context	interface name *string* subinterface index *number* statistics in-matched-ra-packets *number*
Tree	in-matched-ra-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-octets *number*

Description	The total number of octets received in input packets, counting transit and terminating traffic
Context	interface name *string* subinterface index *number* statistics in-octets *number*
Tree	in-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-packets *number*

Description	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
Context	interface name *string* subinterface index *number* statistics in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-terminated-octets *number*

Description	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
Context	interface name *string* subinterface index *number* statistics in-terminated-octets *number*
Tree	in-terminated-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-terminated-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* statistics in-terminated-packets *number*
Tree	in-terminated-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-clear *string*

Description	Timestamp of the last time the subinterface counters were cleared.
Context	interface name *string* subinterface index *number* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

out-discarded-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* statistics out-discarded-packets *number*
Tree	out-discarded-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-error-packets *number*

Description	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
Context	interface name *string* subinterface index *number* statistics out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

out-forwarded-octets *number*

Description	The number of octets in transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
Context	interface name *string* subinterface index *number* statistics out-forwarded-octets *number*
Tree	out-forwarded-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-forwarded-packets *number*

Description	The number of transit IPv4 packets or IPv6 packets or both which the router attempted to route out this subinterface
Context	interface name *string* subinterface index *number* statistics out-forwarded-packets *number*
Tree	out-forwarded-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-octets *number*

Description	The total number of octets in IPv4 packets or IPv6 packets or both delivered to the lower layers for transmission
Context	interface name *string* subinterface index *number* statistics out-octets *number*
Tree	out-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-originated-octets *number*

Description	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
Context	interface name *string* subinterface index *number* statistics out-originated-octets *number*

Tree	out-originated-octets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-originated-packets *number*

Description	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.
Context	interface name *string* subinterface index *number* statistics out-originated-packets *number*
Tree	out-originated-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	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>
Context	interface name *string* subinterface index *number* statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

type *identityref*

Description	Indicates the context in which the ethernet subinterface will be used
Context	interface name *string* subinterface index *number* type *identityref*
Tree	type
Options	• routed

Indicates subinterface is used in a routed context

- bridged

  Indicates subinterface is used in a bridged context

- local-mirror-dest

  Indicates subinterface is used in a mirroring destination SPAN context

Configurable True

Platforms Supported on all platforms

vlan

Description Parameters for VLAN definition under SRL interfaces.

Context interface name *string* subinterface index *number* vlan

Tree vlan

Configurable True

Platforms Supported on all platforms

encap

Description VLAN match parmeters for the associated subinterface.

Context interface name *string* subinterface index *number* vlan encap

Tree encap

Configurable True

Platforms Supported on all platforms

single-tagged

Description 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 by default stripped at ingress and restored/added on egress.

Context interface name *string* subinterface index *number* vlan encap single-tagged

Tree single-tagged

Configurable True

Platforms Supported on all platforms

vlan-id *(number | keyword)*

Description	VLAN identifier for single-tagged packets.
Context	interface name *string* subinterface index *number* vlan encap single-tagged vlan-id *(number | keyword)*
Tree	vlan-id
Range	1 to 4094
Options	• any
Configurable	True
Platforms	Supported on all platforms

single-tagged-range

Description	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.
Context	interface name *string* subinterface index *number* vlan encap single-tagged-range
Tree	single-tagged-range
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

low-vlan-id range-low-vlan-id *number*

Description	Enter the low-vlan-id list instance
Context	interface name *string* subinterface index *number* vlan encap single-tagged-range low-vlan-id range-low-vlan-id *number*
Tree	low-vlan-id
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	8
Min. Elements	1

range-low-vlan-id *number*

Description	The low-value VLAN identifier in a range for single-tagged packets. The range is matched inclusively.
Context	interface name *string* subinterface index *number* vlan encap single-tagged-range low-vlan-id range-low-vlan-id *number*
Range	1 to 4094
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

high-vlan-id *number*

Description	The high-value VLAN identifier in a range for single-tagged packets. The range is matched inclusively.
Context	interface name *string* subinterface index *number* vlan encap single-tagged-range low-vlan-id range-low-vlan-id *number* high-vlan-id *number*
Tree	high-vlan-id
Range	1 to 4094
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

untagged

Description	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.
Context	interface name *string* subinterface index *number* vlan encap untagged
Tree	untagged
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

tpid *identityref*

Description	Optionally set the tag protocol identifier field (TPID) that is accepted on the VLAN
Context	interface name *string* tpid *identityref*

Tree tpid

Options

- TPID_0X8100

  Default TPID value for 802.1q single-tagged VLANs.
- TPID_0X88A8

  TPID value for 802.1ad provider bridging, QinQ or stacked VLANs.
- TPID_0X9100

  Alternate TPID value.
- TPID_0X9200

  Alternate TPID value.
- TPID_ANY

  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.

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

traffic-rate

Description Container for traffic rate statistics

Context interface name *string* traffic-rate

Tree traffic-rate

Configurable False

Platforms Supported on all platforms

in-bps *number*

Description The ingress bandwidth utilization of the port

Context interface name *string* traffic-rate in-bps *number*

Tree in-bps

Configurable False

Platforms Supported on all platforms

out-bps *number*

Description The egress bandwidth utilization of the port

Context	interface name *string* traffic-rate out-bps *number*
Tree	out-bps
Configurable	False
Platforms	Supported on all platforms

transceiver

Description	Enter the transceiver context
Context	interface name *string* transceiver
Tree	transceiver
Configurable	True
Platforms	Supported on all platforms

channel index *number*

Description	List of physical channels supported by the transceiver associated with this port
Context	interface name *string* transceiver channel index *number*
Tree	channel
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	Index of the physical channel or lane
Context	interface name *string* transceiver channel index *number*
Range	1 to 10
Configurable	False
Platforms	Supported on all platforms

input-power

Description	Enter the input-power context
Context	interface name *string* transceiver channel index *number* input-power
Tree	input-power
Configurable	False

Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver channel index *number* input-power high-alarm-condition *boolean*
Tree	high-alarm-condition
Configurable	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
Context	interface name *string* transceiver channel index *number* input-power 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 Rx power is below the low-alarm-threshold and set to false whenever the Rx power is above the low-alarm-threshold
Context	interface name *string* transceiver channel index *number* input-power low-alarm-condition *boolean*
Tree	low-alarm-condition
Configurable	False
Platforms	Supported on all platforms

low-alarm-threshold *decimal-number*

Description	Low alarm threshold condition. Read from the installed transceiver
Context	interface name *string* transceiver channel index *number* input-power low-alarm-threshold *decimal-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 Rx power is below the low-warning-threshold and set to false whenever the Rx power is above the low-warning-threshold
Context	interface name *string* transceiver channel index *number* input-power low-warning-condition *boolean*
Tree	low-warning-condition
Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold. Read from the installed transceiver
Context	interface name *string* transceiver channel index *number* input-power low-warning-threshold *decimal-number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

laser-bias-current

Description	Enter the laser-bias-current context
Context	interface name *string* transceiver channel index *number* laser-bias-current
Tree	laser-bias-current
Configurable	False
Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver channel index *number* laser-bias-current high-alarm-condition *boolean*

Tree	high-alarm-condition
Configurable	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* laser-bias-current 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 laser bias current is above the high-warning-threshold and set to false whenever the laser bias current is below the high-warning-threshold
Context	interface name *string* transceiver channel index *number* laser-bias-current 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* 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 channel index *number* 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 channel index *number* 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
Context	interface name *string* transceiver channel index *number* laser-bias-current low-alarm-threshold *decimal-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 laser bias current is below the low-warning-threshold and set to false whenever the laser bias current is above the low-warning-threshold
Context	interface name *string* transceiver channel index *number* laser-bias-current low-warning-condition *boolean*

Tree	low-warning-condition
Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold. Read from the installed transceiver
Context	interface name *string* transceiver channel index *number* laser-bias-current low-warning-threshold *decimal-number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

output-power

Description	Enter the output-power context
Context	interface name *string* transceiver channel index *number* output-power
Tree	output-power
Configurable	False
Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver channel index *number* output-power high-alarm-condition *boolean*
Tree	high-alarm-condition
Configurable	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* output-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 Tx power is above the high-warning-threshold and set to false whenever the Tx power is below the high-warning-threshold

Context interface name *string* transceiver channel index *number* output-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* output-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 Tx power in dBm

Context interface name *string* transceiver channel index *number* output-power 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 Tx power is below the low-alarm-threshold and set to false whenever the Tx power is above the low-alarm-threshold
Context	interface name *string* transceiver channel index *number* output-power 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
Context	interface name *string* transceiver channel index *number* output-power low-alarm-threshold *decimal-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 Tx power is below the low-warning-threshold and set to false whenever the Tx power is above the low-warning-threshold
Context	interface name *string* transceiver channel index *number* output-power low-warning-condition *boolean*
Tree	low-warning-condition
Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold. Read from the installed transceiver

Context	interface name *string* transceiver channel index *number* output-power low-warning-threshold *decimal-number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

wavelength *decimal-number*

Description	Wavelength of the transmitting laser in nanometers
Context	interface name *string* transceiver channel index *number* wavelength *decimal-number*
Tree	wavelength
Configurable	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.

Context interface name *string* transceiver date-code *string*

Tree date-code

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

ddm-events *boolean*

Description 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.

Context interface name *string* transceiver ddm-events *boolean*

Tree ddm-events

Configurable True

Platforms Supported on all platforms

ethernet-pmd *string*

Description	Specifies the Ethernet compliance code of the transceiver associated with the port
Context	interface name *string* transceiver ethernet-pmd *string*
Tree	ethernet-pmd
Configurable	False
Platforms	Supported on all platforms

fault-condition *boolean*

Description	Indicates if a fault condition exists in the transceiver.
Context	interface name *string* transceiver fault-condition *boolean*
Tree	fault-condition
Configurable	False
Platforms	Supported on all platforms

form-factor *keyword*

Description	Specifies the transceiver form factor associated with the port
Context	interface name *string* transceiver form-factor *keyword*
Tree	form-factor
Options	• CFP2 • CFP2-ACO • CFP4 • QSFP • QSFPplus • QSFP28 • QSFPDD • SFP • SFPplus • Non-pluggable • Other • SFP28 • SFPDD • QSFP56 • SFP56

Configurable False

Platforms Supported on all platforms

forward-error-correction *keyword*

Description The forward error correction algorithm to use on the optical channel

The same FEC algorithm must be used at both ends of a link.

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.

100G interfaces support disabled and rs-528; configuring other (incompatible) options will bring the port down.

400G interfaces require rs-544; configuring other (unsupported) options will bring the port down.

Context interface name *string* transceiver forward-error-correction *keyword*

Tree forward-error-correction

Options

- disabled
- 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

Configurable True

Platforms Supported on all platforms

healthz

Description The health of the component

The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.

Context interface name *string* transceiver healthz

Tree	healthz
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description	Last unhealthy time The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.
Context	interface name *string* transceiver healthz last-unhealthy *string*
Tree	last-unhealthy
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description	Health status The status of the component, indicating its current health.
Context	interface name *string* transceiver healthz status *keyword*
Tree	status
Options	• unspecified Unspecified status The component's health status has not yet been checked by the system. • healthy Healthy status The component is in a healthy state, and is operating within the expected parameters. • unhealthy Unhealthy status The component is in a unhealthy state, it is not performing the function expected of it.
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description	Unhealthy count The number of times the component has transitioned from the healthy state to any other state.
Context	interface name *string* transceiver healthz unhealthy-count *number*
Tree	unhealthy-count
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

input-power

Description	Enter the input-power context
Context	interface name *string* transceiver input-power
Tree	input-power
Configurable	False
Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver input-power high-alarm-condition *boolean*
Tree	high-alarm-condition
Configurable	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 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 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 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
Context	interface name *string* transceiver input-power 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 Rx power is below the low-alarm-threshold and set to false whenever the Rx power is above the low-alarm-threshold
Context	interface name *string* transceiver input-power low-alarm-condition *boolean*
Tree	low-alarm-condition
Configurable	False
Platforms	Supported on all platforms

low-alarm-threshold *decimal-number*

Description	Low alarm threshold condition. Read from the installed transceiver
Context	interface name *string* transceiver input-power low-alarm-threshold *decimal-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 Rx power is below the low-warning-threshold and set to false whenever the Rx power is above the low-warning-threshold
Context	interface name *string* transceiver input-power low-warning-condition *boolean*
Tree	low-warning-condition
Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold. Read from the installed transceiver
Context	interface name *string* transceiver input-power low-warning-threshold *decimal-number*
Tree	low-warning-threshold

Configurable	False
Platforms	Supported on all platforms

laser-bias-current

Description	Enter the laser-bias-current context
Context	interface name *string* transceiver laser-bias-current
Tree	laser-bias-current
Configurable	False
Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver laser-bias-current high-alarm-condition *boolean*
Tree	high-alarm-condition
Configurable	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 laser-bias-current 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 laser bias current is above the high-warning-threshold and set to false whenever the laser bias current is below the high-warning-threshold

Context interface name *string* transceiver laser-bias-current 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 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
Context	interface name *string* transceiver laser-bias-current low-alarm-threshold *decimal-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 laser bias current is below the low-warning-threshold and set to false whenever the laser bias current is above the low-warning-threshold
Context	interface name *string* transceiver laser-bias-current low-warning-condition *boolean*
Tree	low-warning-condition
Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold. Read from the installed transceiver
Context	interface name *string* transceiver laser-bias-current low-warning-threshold *decimal-number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	The reason for the transceiver being operationally down

Context interface name *string* transceiver oper-down-reason *keyword*

Tree oper-down-reason

Options
- not-present
- read-failure
- checksum-failure
- unknown-transceiver
- tx-laser-disabled
- unsupported-breakout
- port-disabled
- connector-transceiver-down

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description The operational state of the transceiver

The oper-state is always down when the Ethernet port is a copper/RJ45 port.

Context interface name *string* transceiver oper-state *keyword*

Tree oper-state

Options
- up
- down

Configurable False

Platforms Supported on all platforms

output-power

Description Enter the output-power context

Context interface name *string* transceiver output-power

Tree output-power

Configurable False

Platforms Supported on all platforms

high-alarm-condition *boolean*

Description 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
Context	interface name *string* transceiver output-power high-alarm-condition *boolean*
Tree	high-alarm-condition
Configurable	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 output-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 Tx power is above the high-warning-threshold and set to false whenever the Tx power is below the high-warning-threshold
Context	interface name *string* transceiver output-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 output-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 Tx power in dBm
Context	interface name *string* transceiver output-power 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 Tx power is below the low-alarm-threshold and set to false whenever the Tx power is above the low-alarm-threshold
Context	interface name *string* transceiver output-power 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
Context	interface name *string* transceiver output-power low-alarm-threshold *decimal-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 Tx power is below the low-warning-threshold and set to false whenever the Tx power is above the low-warning-threshold
Context	interface name *string* transceiver output-power low-warning-condition *boolean*
Tree	low-warning-condition

Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold. Read from the installed transceiver
Context	interface name *string* transceiver output-power low-warning-threshold *decimal-number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

serial-number *string*

Description	Transceiver serial number This is the information as read from the EEPROM of the part.
Context	interface name *string* transceiver serial-number *string*
Tree	serial-number
Configurable	False
Platforms	Supported on all platforms

temperature

Description	Enter the temperature context
Context	interface name *string* transceiver temperature
Tree	temperature
Configurable	False
Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver temperature high-alarm-condition *boolean*

Tree	high-alarm-condition
Configurable	False
Platforms	Supported on all platforms

high-alarm-threshold *number*

Description	High alarm threshold Read from the installed transceiver
Context	interface name *string* transceiver temperature high-alarm-threshold *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 temperature is above the high-warning-threshold and set to false whenever the temperature is below the high-warning-threshold
Context	interface name *string* transceiver temperature high-warning-condition *boolean*
Tree	high-warning-condition
Configurable	False
Platforms	Supported on all platforms

high-warning-threshold *number*

Description	High warning threshold. Read from the installed transceiver
Context	interface name *string* transceiver temperature high-warning-threshold *number*
Tree	high-warning-threshold
Configurable	False
Platforms	Supported on all platforms

latest-value *number*

Description	The current temperature of the transceiver module in degrees Celsius
Context	interface name *string* transceiver temperature latest-value *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 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
Context	interface name *string* transceiver temperature low-warning-threshold *number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

maximum *number*

Description	Represents the highest temperature the transceiver has reached since it booted
Context	interface name *string* transceiver temperature maximum *number*
Tree	maximum
Configurable	False
Platforms	Supported on all platforms

maximum-time *string*

Description	Indicates the time this transceiver reached the temperature referenced in maximum
Context	interface name *string* transceiver temperature maximum-time *string*
Tree	maximum-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

tx-laser *boolean*

Description	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).
Context	interface name *string* transceiver tx-laser *boolean*
Tree	tx-laser

Configurable	True
Platforms	Supported on all platforms

vendor *string*

Description	Name of the transceiver vendor This is the information as read from the EEPROM of the part.
Context	interface name *string* transceiver vendor *string*
Tree	vendor
Configurable	False
Platforms	Supported on all platforms

vendor-lot-number *string*

Description	Vendor's lot number for the transceiver This is the information as read from the EEPROM of the part.
Context	interface name *string* transceiver vendor-lot-number *string*
Tree	vendor-lot-number
Configurable	False
Platforms	Supported on all platforms

vendor-part-number *string*

Description	Vendor's part number for the transceiver This is the information as read from the EEPROM of the part.
Context	interface name *string* transceiver vendor-part-number *string*
Tree	vendor-part-number
Configurable	False
Platforms	Supported on all platforms

vendor-revision *string*

Description	Vendor's revision number for the transceiver This is the information as read from the EEPROM of the part.
Context	interface name *string* transceiver vendor-revision *string*

Tree	vendor-revision
Configurable	False
Platforms	Supported on all platforms

voltage

Description	Enter the voltage context
Context	interface name *string* transceiver voltage
Tree	voltage
Configurable	False
Platforms	Supported on all platforms

high-alarm-condition *boolean*

Description	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
Context	interface name *string* transceiver voltage high-alarm-condition *boolean*
Tree	high-alarm-condition
Configurable	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 voltage 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 module voltage is above the high-warning-threshold and set to false whenever the module voltage is below the high-warning-threshold
Context	interface name *string* transceiver voltage 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 voltage high-warning-threshold *decimal-number*
Tree	high-warning-threshold
Configurable	False
Platforms	Supported on all platforms

latest-value *decimal-number*

Description	The current voltage reading of the transceiver module (in Volts)
Context	interface name *string* transceiver voltage 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 module voltage is below the low-alarm-threshold and set to false whenever the module voltage is above the low-alarm-threshold
Context	interface name *string* transceiver voltage 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
Context	interface name *string* transceiver voltage low-alarm-threshold *decimal-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 module voltage is below the low-warning-threshold and set to false whenever the module voltage is above the low-warning-threshold
Context	interface name *string* transceiver voltage low-warning-condition *boolean*
Tree	low-warning-condition
Configurable	False
Platforms	Supported on all platforms

low-warning-threshold *decimal-number*

Description	Low warning threshold . Read from the installed transceiver
Context	interface name *string* transceiver voltage low-warning-threshold *decimal-number*
Tree	low-warning-threshold
Configurable	False
Platforms	Supported on all platforms

wavelength *decimal-number*

Description	Wavelength of the transmitting laser in nanometers
Context	interface name *string* transceiver wavelength *decimal-number*
Tree	wavelength

Configurable	False
Platforms	Supported on all platforms

vlan-tagging *boolean*

Description	When set to true the interface is allowed to accept frames with one or more VLAN tags
Context	interface name *string* vlan-tagging *boolean*
Tree	vlan-tagging
Configurable	True
Platforms	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
            -  route 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
                  -  fib-programming-failed boolean
                  -  label-allocation-failed 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
               -  route 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
                     -  fib-programming-failed boolean
                     -  label-allocation-failed 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
               - route prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
                  - attr-id reference
            - rib-out-post
               - route prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
                  - attr-id reference
      - ipv6-unicast
         - local-rib
            - route 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
                  - fib-programming-failed boolean
                  - label-allocation-failed 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
               - route 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
                     - fib-programming-failed boolean
                     - label-allocation-failed 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
               - route prefix (ipv4-prefix | ipv6-prefix) neighbor (ipv4-address-with-zone |
ipv6-address-with-zone) path-id number
                  - attr-id reference
            - rib-out-post
               - route 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
   +  interface-ref
      +  interface reference
      +  subinterface reference
   -  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
-  multicast-forwarding-information-base
   -  multicast-route source (ipv4-address | ipv6-address) group (ipv4-address | ipv6-address)
      -  last-update string
      -  outgoing-interface index number
         -  forward boolean
      -  outgoing-next-hop-group index number
         -  forward 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-with-zone | ipv6-address-with-zone)
         +  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
      +  interface-ref
         +  interface reference
         +  subinterface 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
      +  type keyword
+  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
         +  export-policy reference
         +  import-policy reference
         +  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
         +  export-policy reference
         +  import-policy reference
         +  ipv4-unicast
            +  advertise-ipv6-next-hops boolean
            +  link-bandwidth
               +  add-next-hop-count-to-received-bgp-routes (number | keyword)
            +  prefix-limit
               +  max-received-routes number
               +  prevent-teardown boolean
               +  warning-threshold-pct number
            +  receive-ipv6-next-hops boolean
         +  ipv6-unicast
            +  link-bandwidth
               +  add-next-hop-count-to-received-bgp-routes (number | keyword)
            +  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-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
      + max-ecmp-hash-buckets-per-next-hop-group number
      + 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
            + export-policy reference
            + import-policy reference
            + ipv4-unicast
               + advertise-ipv6-next-hops boolean
               + link-bandwidth
                  + add-next-hop-count-to-received-bgp-routes (number | keyword)
               + prefix-limit
                  + max-received-routes number
                  - prefix-limit-exceeded boolean
                  + prevent-teardown boolean
                  + warning-threshold-pct number
               + receive-ipv6-next-hops boolean
            + ipv6-unicast
               + link-bandwidth
                  + add-next-hop-count-to-received-bgp-routes (number | keyword)
               + 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 identityref
                -  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 identityref
       -  received-capabilities keyword
       -  received-end-of-rib identityref
       -  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-default-route
            +  export-policy reference
            +  ipv4-unicast boolean
            +  ipv6-unicast boolean
         -  sent-end-of-rib identityref
         -  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)
      -  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-extended-community 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
               +  ip-prefix
                  +  evpn-link-bandwidth
                     +  advertise
                        +  maximum-dynamic-weight number
                        +  weight (number | keyword)
                     +  weighted-ecmp
                        +  admin-state keyword
                        +  max-ecmp-hash-buckets-per-next-hop-group number
               +  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)
            -  import-route-target-origin keyword
            +  import-rt (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
   +  iid-tlv boolean
   +  instance-id number
   +  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
         + interface-ref
            + interface reference
            + subinterface reference
         + 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
         - 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
      +  weighted-ecmp
         +  load-balancing-weight (number | keyword)
   +  ipv4-unicast
      +  admin-state keyword
   +  ipv6-unicast
      +  admin-state keyword
      +  multi-topology boolean
   +  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
      -  link-state-database
         -  lsp lsp-id string
            -  checksum number
            -  flags keyword
            -  id-length number
            -  is-type number
            -  maximum-area-addresses number
            -  pdu-length number
            -  pdu-type keyword
            -  remaining-lifetime number
            -  sequence-number number
            -  tlvs
               -  tlv type identityref
                  -  area-address
                     -  address string
                  -  authentication
```

```
                        - authentication-key string
                        - crypto-type keyword
                     - extended-ipv4-reachability
                        - prefixes
                           - prefix prefix string
                              - metric number
                              - s-bit boolean
                              - subtlvs
                                 - subtlv type identityref
                                    - flags
                                       - flags keyword
                                       - type identityref
                                    - ipv4-source-router-id
                                       - router-id string
                                       - type identityref
                                    - ipv6-source-router-id
                                       - router-id string
                                       - type identityref
                                    - prefix-sids
                                       - prefix-sid value number
                                          - algorithm number
                                          - flags keyword
                                    - tag
                                       - tag32 number
                                    - tag64
                                       - tag64 number
                              - undefined-subtlvs
                                 - undefined-subtlv type number
                                    - length number
                                    - value binary
                              - up-down boolean
                     - extended-is-reachability
                        - neighbors
                           - neighbor system-id string
                              - instances
                                 - instance id number
                                    - metric number
                                    - subtlvs
                                       - subtlv type identityref
                                          - adjacency-sids
                                             - adjacency-sid value number
                                                - flags keyword
                                                - weight number
                                          - admin-group
                                             - admin-group number
                                          - available-bandwidth
                                             - bandwidth binary
                                             - type identityref
                                          - bandwidth-constraints
                                             - bandwidth-constraint model-id number
                                                - constraints
                                                   - constraint constraint-id number
                                                      - bandwidth binary
                                          - extended-admin-group
                                             - extended-admin-group number
                                          - ipv4-interface-address
                                             - address string
                                          - ipv4-neighbor-address
                                             - address string
                                          - ipv6-interface-address
                                             - address string
                                          - ipv6-neighbor-address
                                             - address string
                                          - lan-adjacency-sids
```

```
                                    - lan-adjacency-sid value number
                                       - flags keyword
                                       - neighbor-id string
                                       - weight number
                                 - link-attributes
                                    - local-protection keyword
                                 - link-delay
                                    - a-bit boolean
                                    - delay number
                                 - link-delay-variation
                                    - delay number
                                 - link-id
                                    - local number
                                    - remote number
                                 - link-loss
                                    - a-bit boolean
                                    - link-loss number
                                 - link-protection-type
                                    - type keyword
                                 - max-link-bandwidth
                                    - bandwidth binary
                                 - max-reservable-link-bandwidth
                                    - bandwidth binary
                                 - min-max-link-delay
                                    - a-bit boolean
                                    - max-delay number
                                    - min-delay number
                                 - residual-bandwidth
                                    - bandwidth binary
                                 - te-default-metric
                                    - metric number
                                 - unconstrained-lsp
                                    - count number
                                    - type identityref
                                 - unreserved-bandwidth
                                    - setup-priority priority number
                                       - bandwidth binary
                                 - utilized-bandwidth
                                    - bandwidth binary
                                    - type identityref
                           - undefined-subtlvs
                              - undefined-subtlv type number
                                 - length number
                                 - value binary
                  - hostname
                     - hostname string
                  - instance-ids
                     - instance-id instance-id number
                        - topology-id number
                  - ipv4-external-reachability
                     - prefixes
                        - prefix prefix string
                           - default-metric
                              - flags keyword
                              - metric number
                           - delay-metric
                              - flags keyword
                              - metric number
                           - error-metric
                              - flags keyword
                              - metric number
                           - expense-metric
                              - flags keyword
                              - metric number
```

```
                  - up-down boolean
            - ipv4-interface-addresses
               - address string
            - ipv4-internal-reachability
               - prefixes
                  - prefix prefix string
                     - default-metric
                        - flags keyword
                        - metric number
                     - delay-metric
                        - flags keyword
                        - metric number
                     - error-metric
                        - flags keyword
                        - metric number
                     - expense-metric
                        - flags keyword
                        - metric number
                     - up-down boolean
            - ipv4-srlgs
               - ipv4-srlg instance-number number
                  - flags keyword
                  - ipv4-interface-address string
                  - ipv4-neighbor-address string
                  - psn-number number
                  - srlg-value number
                  - system-id string
            - ipv4-te-router-id
               - router-id string
            - ipv6-interface-addresses
               - address string
            - ipv6-reachability
               - prefixes
                  - prefix prefix string
                     - metric number
                     - s-bit boolean
                     - subtlvs
                        - subtlv type identityref
                           - flags
                              - flags keyword
                              - type identityref
                           - ipv4-source-router-id
                              - router-id string
                              - type identityref
                           - ipv6-source-router-id
                              - router-id string
                              - type identityref
                           - prefix-sids
                              - prefix-sid value number
                                 - algorithm number
                                 - flags keyword
                           - tag
                              - tag32 number
                           - tag64
                              - tag64 number
                     - undefined-subtlvs
                        - undefined-subtlv type number
                           - length number
                           - value binary
                     - up-down boolean
                     - x-bit boolean
            - ipv6-srlgs
               - ipv6-srlg instance-number number
                  - flags keyword
```

```
                        - ipv6-interface-address string
                        - ipv6-neighbor-address string
                        - psn-number number
                        - srlg-value number
                        - system-id string
                  - ipv6-te-router-id
                     - router-id string
                  - is-alias-id
                     - alias-id string
                  - is-reachability
                     - neighbors
                        - neighbor system-id string
                           - default-metric
                              - flags keyword
                              - metric number
                           - delay-metric
                              - flags keyword
                              - metric number
                           - error-metric
                              - flags keyword
                              - metric number
                           - expense-metric
                              - flags keyword
                              - metric number
                  - isis-neighbor-attribute
                     - neighbors
                        - neighbor system-id string
                           - instances
                              - instance id number
                                 - metric number
                                 - subtlvs
                                    - subtlv type identityref
                                       - adjacency-sids
                                          - adjacency-sid value number
                                             - flags keyword
                                             - weight number
                                       - admin-group
                                          - admin-group number
                                       - available-bandwidth
                                          - bandwidth binary
                                          - type identityref
                                       - bandwidth-constraints
                                          - bandwidth-constraint model-id number
                                             - constraints
                                                - constraint constraint-id number
                                                   - bandwidth binary
                                       - extended-admin-group
                                          - extended-admin-group number
                                       - ipv4-interface-address
                                          - address string
                                       - ipv4-neighbor-address
                                          - address string
                                       - ipv6-interface-address
                                          - address string
                                       - ipv6-neighbor-address
                                          - address string
                                       - lan-adjacency-sids
                                          - lan-adjacency-sid value number
                                             - flags keyword
                                             - neighbor-id string
                                             - weight number
                                       - link-attributes
                                          - local-protection keyword
                                       - link-delay
```

```
                                    - a-bit boolean
                                    - delay number
                                 - link-delay-variation
                                    - delay number
                                 - link-id
                                    - local number
                                    - remote number
                                 - link-loss
                                    - a-bit boolean
                                    - link-loss number
                                 - link-protection-type
                                    - type keyword
                                 - max-link-bandwidth
                                    - bandwidth binary
                                 - max-reservable-link-bandwidth
                                    - bandwidth binary
                                 - min-max-link-delay
                                    - a-bit boolean
                                    - max-delay number
                                    - min-delay number
                                 - residual-bandwidth
                                    - bandwidth binary
                                 - te-default-metric
                                    - metric number
                                 - unconstrained-lsp
                                    - count number
                                    - type identityref
                                 - unreserved-bandwidth
                                    - setup-priority priority number
                                       - bandwidth binary
                                 - utilized-bandwidth
                                    - bandwidth binary
                                    - type identityref
                           - undefined-subtlvs
                              - undefined-subtlv type number
                                 - length number
                                 - value binary
                  - lsp-buffer-size
                     - size number
                  - mt-ipv4-reachability
                     - prefixes
                        - prefix mt-id number prefix string
                           - metric number
                           - s-bit boolean
                           - subtlvs
                              - subtlv type identityref
                                 - flags
                                    - flags keyword
                                    - type identityref
                                 - ipv4-source-router-id
                                    - router-id string
                                    - type identityref
                                 - ipv6-source-router-id
                                    - router-id string
                                    - type identityref
                                 - prefix-sids
                                    - prefix-sid value number
                                       - algorithm number
                                       - flags keyword
                                 - tag
                                    - tag32 number
                                 - tag64
                                    - tag64 number
                           - undefined-subtlvs
```

```
                        - undefined-subtlv type number
                           - length number
                           - value binary
                     - up-down boolean
               - mt-ipv6-reachability
                  - prefixes
                     - prefix prefix string mt-id number
                        - metric number
                        - s-bit boolean
                        - subtlvs
                           - subtlv type identityref
                              - flags
                                 - flags keyword
                                 - type identityref
                              - ipv4-source-router-id
                                 - router-id string
                                 - type identityref
                              - ipv6-source-router-id
                                 - router-id string
                                 - type identityref
                              - prefix-sids
                                 - prefix-sid value number
                                    - algorithm number
                                    - flags keyword
                              - tag
                                 - tag32 number
                              - tag64
                                 - tag64 number
                        - undefined-subtlvs
                           - undefined-subtlv type number
                              - length number
                              - value binary
                        - up-down boolean
                        - x-bit boolean
               - mt-isis-neighbor-attribute
                  - neighbors
                     - neighbor mt-id number system-id string
                        - instances
                           - instance id number
                              - metric number
                              - subtlvs
                                 - subtlv type identityref
                                    - adjacency-sids
                                       - adjacency-sid value number
                                          - flags keyword
                                          - weight number
                                    - admin-group
                                       - admin-group number
                                    - available-bandwidth
                                       - bandwidth binary
                                       - type identityref
                                    - bandwidth-constraints
                                       - bandwidth-constraint model-id number
                                          - constraints
                                             - constraint constraint-id number
                                                - bandwidth binary
                                    - extended-admin-group
                                       - extended-admin-group number
                                    - ipv4-interface-address
                                       - address string
                                    - ipv4-neighbor-address
                                       - address string
                                    - ipv6-interface-address
                                       - address string
```

```
                                    - ipv6-neighbor-address
                                       - address string
                                    - lan-adjacency-sids
                                       - lan-adjacency-sid value number
                                          - flags keyword
                                          - neighbor-id string
                                          - weight number
                                    - link-attributes
                                       - local-protection keyword
                                    - link-delay
                                       - a-bit boolean
                                       - delay number
                                    - link-delay-variation
                                       - delay number
                                    - link-id
                                       - local number
                                       - remote number
                                    - link-loss
                                       - a-bit boolean
                                       - link-loss number
                                    - link-protection-type
                                       - type keyword
                                    - max-link-bandwidth
                                       - bandwidth binary
                                    - max-reservable-link-bandwidth
                                       - bandwidth binary
                                    - min-max-link-delay
                                       - a-bit boolean
                                       - max-delay number
                                       - min-delay number
                                    - residual-bandwidth
                                       - bandwidth binary
                                    - te-default-metric
                                       - metric number
                                    - unconstrained-lsp
                                       - count number
                                       - type identityref
                                    - unreserved-bandwidth
                                       - setup-priority priority number
                                          - bandwidth binary
                                    - utilized-bandwidth
                                       - bandwidth binary
                                       - type identityref
                                 - undefined-subtlvs
                                    - undefined-subtlv type number
                                       - length number
                                       - value binary
                           - mt-isn
                              - neighbors
                                 - neighbor mt-id number system-id string
                                    - instances
                                       - instance id number
                                          - metric number
                                          - subtlvs
                                             - subtlv type identityref
                                                - adjacency-sids
                                                   - adjacency-sid value number
                                                      - flags keyword
                                                      - weight number
                                                - admin-group
                                                   - admin-group number
                                                - available-bandwidth
                                                   - bandwidth binary
                                                   - type identityref
```

```
                                    - bandwidth-constraints
                                       - bandwidth-constraint model-id number
                                          - constraints
                                             - constraint constraint-id number
                                                - bandwidth binary
                                    - extended-admin-group
                                       - extended-admin-group number
                                    - ipv4-interface-address
                                       - address string
                                    - ipv4-neighbor-address
                                       - address string
                                    - ipv6-interface-address
                                       - address string
                                    - ipv6-neighbor-address
                                       - address string
                                    - lan-adjacency-sids
                                       - lan-adjacency-sid value number
                                          - flags keyword
                                          - neighbor-id string
                                          - weight number
                                    - link-attributes
                                       - local-protection keyword
                                    - link-delay
                                       - a-bit boolean
                                       - delay number
                                    - link-delay-variation
                                       - delay number
                                    - link-id
                                       - local number
                                       - remote number
                                    - link-loss
                                       - a-bit boolean
                                       - link-loss number
                                    - link-protection-type
                                       - type keyword
                                    - max-link-bandwidth
                                       - bandwidth binary
                                    - max-reservable-link-bandwidth
                                       - bandwidth binary
                                    - min-max-link-delay
                                       - a-bit boolean
                                       - max-delay number
                                       - min-delay number
                                    - residual-bandwidth
                                       - bandwidth binary
                                    - te-default-metric
                                       - metric number
                                    - unconstrained-lsp
                                       - count number
                                       - type identityref
                                    - unreserved-bandwidth
                                       - setup-priority priority number
                                          - bandwidth binary
                                    - utilized-bandwidth
                                       - bandwidth binary
                                       - type identityref
                              - undefined-subtlvs
                                 - undefined-subtlv type number
                                    - length number
                                    - value binary
                        - multi-topology
                           - topologies
                              - topology mt-id number
                                 - attributes keyword
```

```
                     -  nlpid
                        -  nlpid keyword
                     -  purge-oi
                        -  received-system-id string
                        -  source-system-id string
                        -  system-id-count number
                     -  router-capabilities
                        -  capability instance-number number
                           -  flags keyword
                           -  router-id string
                           -  subtlvs
                              -  subtlv type identityref
                                 -  sbfd-discriminators
                                    -  discriminator number
                                 -  segment-routing-algorithms
                                    -  algorithm keyword
                                 -  segment-routing-capability
                                    -  flags keyword
                                    -  srgb-descriptors
                                       -  srgb-descriptor range number
                                          -  label number
               -  undefined-tlvs
                  -  undefined-tlv type number
                     -  length number
                     -  value binary
               -  version number
               -  version2 number
            +  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
               -  entropy-label-transmit boolean
               -  ingress-lsr-fec boolean
               -  label (number | keyword)
               -  next-hop index number
                  -  interface string
                  -  next-hop (ipv4-address | ipv6-address)
                  -  next-hop-alternate boolean
               -  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-lsdbs
                     -  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
         -  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
               +  lsdb
                  +  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-bgp-instance reference
            - next-ethernet-segment reference
            - 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
            - entropy-label-transmit boolean
            - 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 id number
         -  next-hop reference
         -  resolved keyword
      -  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*

Description	Network instances configured on the local system
Context	network-instance name *string*
Tree	network-instance
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	A unique name identifying the network instance
Context	network-instance name *string*
String Length	1 to 247
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	This leaf contains the configured, desired state of the network instance.
Context	network-instance name *string* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

aggregate-routes

Description	Enable the aggregate-routes context
Context	network-instance name *string* aggregate-routes
Tree	aggregate-routes

Configurable	True
Platforms	Supported on all platforms

route prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the route list instance
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)*
Tree	route
Configurable	True
Platforms	Supported on all platforms
Max. Elements	16384

prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the prefix context
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)*
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	This leaf contains the configured, desired state of the aggregate prefix.
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

aggregator

Description	Enter the aggregator context

Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* aggregator
Tree	aggregator
Configurable	True
Platforms	Supported on all platforms

address *string*

Description	Specifies the aggregator's IP address.
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* aggregator address *string*
Tree	address
Configurable	True
Platforms	Supported on all platforms

as-number *number*

Description	Specifies the aggregator's ASN
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* aggregator as-number *number*
Tree	as-number
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

communities

Description	Enter the communities context
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* communities
Tree	communities
Configurable	True
Platforms	Supported on all platforms

add *(bgp-std-community-type | bgp-std-community-regexp-type | identityref | bgp-large-community-type | bgp-large-community-regexp-type)*

Description	Enter the add context
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* communities add *(bgp-std-community-type | bgp-std-community-regexp-type | identityref | bgp-large-community-type | bgp-large-community-regexp-type)*
Tree	add
Options	• 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 0xFFFFFF01. • no-advertise All NLRI received carrying this community must not be advertised to other BGP peers. This community has a value of 0xFFFFFF02. • 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 0xFFFFFF03.
Configurable	True
Platforms	Supported on all platforms
Max. Elements	12

generate-icmp *boolean*

Description	When set to true the router generares ICMP unreachable messages for packets matching the aggregate route (and not a more specific route).
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* generate-icmp *boolean*
Tree	generate-icmp
Configurable	True
Platforms	Supported on all platforms

installed *boolean*

Description	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

Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* installed *boolean*
Tree	installed
Configurable	False
Platforms	Supported on all platforms

summary-only *boolean*

Description	When set to true the router blocks the advertisement of all contributing routes of this aggregate route in dynamic protocols such as BGP.
Context	network-instance name *string* aggregate-routes route prefix *(ipv4-prefix | ipv6-prefix)* summary-only *boolean*
Tree	summary-only
Default	false
Configurable	True
Platforms	Supported on all platforms

bgp-rib

Description	Container for BGP RIB state.
Context	network-instance name *string* bgp-rib
Tree	bgp-rib
Configurable	False
Platforms	Supported on all platforms

afi-safi afi-safi-name *identityref*

Description	List of address families with routes in the BGP RIB
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref*
Tree	afi-safi
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

afi-safi-name *identityref*

Description The name of the address family

Context network-instance name *string* bgp-rib 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)
- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast

  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)
- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)
- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)
- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-unicast

Description Container for RIB state of IPv4-unicast routes.

Context network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast

Tree ipv4-unicast

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-rib

Description 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.

Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib
Tree	local-rib
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*

Description	List of IPv4 routes in the local RIB.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the prefix context
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

origin-protocol *identityref*

Description If the route was imported from another protocol, this is the protocol name.

Context network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*

Options

- aggregate

  Locally configured aggregate route
- arp-nd

  IP route added by ARP ND.
- bgp

  Border Gateway Protocol version 4
- bgp-label

  Border Gateway Protocol labeled routes
- bgp-evpn

  BGP Ethernet VPN (EVPN)
- bgp-vpn

  Border Gateway Protocol VPN routes
- 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fib-programming-failed *boolean*

Description	Indicates true if FIB programming failed
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* invalid-reason fib-programming-failed *boolean*
Tree	fib-programming-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-allocation-failed *boolean*

Description	Indicates true if dynamic-label-block has no more free labels
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* invalid-reason label-allocation-failed *boolean*
Tree	label-allocation-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* pending-delete *boolean*
Tree	pending-delete
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* stale-route *boolean*

Tree stale-route

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv4-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* 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
- eigp-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
- fib-install-disabled
- peer-router-id
- path-identifier

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* valid-route *boolean*
Tree	valid-route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rib-in-out

Description	Container for BGP routes learned and advertised to BGP neighbors.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out
Tree	rib-in-out
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rib-in-post

Description	Container for the post-import-policy version of BGP routes learned from BGP neighbors.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-post
Tree	rib-in-post
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route prefix *(ipv4-prefix \| ipv6-prefix)* neighbor *(ipv4-address-with-zone \| ipv6-address-with-zone)* path-id *number*

Description	List of IPv4 routes
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the prefix context
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fib-programming-failed *boolean*

Description	Indicates true if FIB programming failed
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* invalid-reason fib-programming-failed *boolean*
Tree	fib-programming-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-allocation-failed *boolean*

Description	Indicates true if dynamic-label-block has no more free labels
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* invalid-reason label-allocation-failed *boolean*
Tree	label-allocation-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* last-modified *string*
Tree	last-modified
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* neighbor-as *number*
Tree	neighbor-as
Range	1 to 4294967295
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* pending-delete *boolean*
Tree	pending-delete
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv4-unicast rib-in-out rib-in-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv4-unicast rib-in-out rib-in-post route 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
- eigp-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
- fib-install-disabled
- peer-router-id
- path-identifier

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rib-in-pre

Description	Container for the pre-import-policy version of BGP routes learned from BGP neighbors.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-pre
Tree	rib-in-pre
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Description	List of IPv4 routes.

Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the prefix context
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-pre route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv4-unicast rib-in-out rib-out-post
Tree	rib-out-post
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Description	List of IPv4 routes.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-out-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Tree	route
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the prefix context
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-out-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv4-unicast rib-in-out rib-out-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-out-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-out-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-unicast

Description	Container for RIB state of IPv6-unicast routes.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast
Tree	ipv6-unicast
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-rib

Description	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.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib
Tree	local-rib
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*

Description	List of IPv6 routes in the local RIB.

Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

origin-protocol *identityref*

Description	If the route was imported from another protocol, this is the protocol name.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Options	• aggregate Locally configured aggregate route

- arp-nd
  IP route added by ARP ND.
- bgp
  Border Gateway Protocol version 4
- bgp-label
  Border Gateway Protocol labeled routes
- bgp-evpn
  BGP Ethernet VPN (EVPN)
- bgp-vpn
  Border Gateway Protocol VPN routes
- 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fib-programming-failed *boolean*

Description	Indicates true if FIB programming failed
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* invalid-reason fib-programming-failed *boolean*
Tree	fib-programming-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-allocation-failed *boolean*

Description	Indicates true if dynamic-label-block has no more free labels
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* invalid-reason label-allocation-failed *boolean*
Tree	label-allocation-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* pending-delete *boolean*
Tree	pending-delete
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* stale-route *boolean*
Tree	stale-route
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* 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
- eigp-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
- fib-install-disabled
- peer-router-id
- path-identifier

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 local-rib route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

valid-route *boolean*

Description Indicates true if the route is valid.

Context network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast local-rib route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* origin-protocol *identityref* path-id *number* valid-route *boolean*

Tree valid-route

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rib-in-out

Description Container for BGP routes learned and advertised to BGP neighbors.

Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out
Tree	rib-in-out
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rib-in-post

Description	Container for the post-import-policy version of BGP routes learned from BGP neighbors.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-post
Tree	rib-in-post
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route 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-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.

Context network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

invalid-reason

Description Enter the invalid-reason context

Context network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-post route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fib-programming-failed *boolean*

Description	Indicates true if FIB programming failed
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* invalid-reason fib-programming-failed *boolean*
Tree	fib-programming-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-allocation-failed *boolean*

Description	Indicates true if dynamic-label-block has no more free labels
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* invalid-reason label-allocation-failed *boolean*
Tree	label-allocation-failed
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* last-modified *string*
Tree	last-modified
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* neighbor-as *number*
Tree	neighbor-as
Range	1 to 4294967295
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* ipv6-unicast rib-in-out rib-in-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number* pending-delete *boolean*
Tree	pending-delete
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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
- eigp-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
- fib-install-disabled
- peer-router-id
- path-identifier

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

valid-route *boolean*

Description Indicates true if the route is valid.

Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-post route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rib-in-pre

Description	Container for the pre-import-policy version of BGP routes learned from BGP neighbors.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-pre
Tree	rib-in-pre
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route 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-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-in-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-pre route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-pre route 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route 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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Tree	route
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.

Context network-instance name *string* bgp-rib afi-safi afi-safi-name *identityref* ipv6-unicast rib-in-out rib-out-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-out-post route prefix *(ipv4-prefix | ipv6-prefix)* neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)* path-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-out-post route 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

attr-sets

Description Container for BGP RIB path attribute sets that can be shared by one or more BGP routes.

Context	network-instance name *string* bgp-rib attr-sets
Tree	attr-sets
Configurable	False
Platforms	Supported on all platforms

attr-set index *number*

Description	List of attribute sets.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number*
Tree	attr-set
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	A unique internal identifier of the attribute set.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number*
Configurable	False
Platforms	Supported on all platforms

aggregator

Description	Enter the aggregator context
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* aggregator
Tree	aggregator
Configurable	False
Platforms	Supported on all platforms

address *(ipv4-address | ipv6-address)*

Description	The router ID of the BGP router that formed the aggregate route.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* aggregator address *(ipv4-address | ipv6-address)*
Tree	address
Configurable	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.

Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* atomic-aggregate *boolean*
Tree	atomic-aggregate
Configurable	False
Platforms	Supported on all platforms

cluster-list *(ipv4-address | ipv6-address)*

Description	The list of IPv4 addresses in the CLUSTER_LIST path attribute.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* cluster-list *(ipv4-address | ipv6-address)*
Tree	cluster-list
Configurable	False
Platforms	Supported on all platforms

communities

Description	Container for different types of BGP communities
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* communities
Tree	communities
Configurable	False
Platforms	Supported on all platforms

community *string*

Description	List of standard 4-byte community values in the COMMUNITY path attribute. Each should be displayed in the format <0..65355>:<0..65535>
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* communities community *string*
Tree	community
Configurable	False
Platforms	Supported on all platforms

ext-community *string*

Description	List of extended 8-byte community values in the COMMUNITY path attribute.

Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* communities ext-community *string*
Tree	ext-community
Configurable	False
Platforms	Supported on all platforms

large-community *string*

Description	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>
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* communities large-community *string*
Tree	large-community
String Length	1 to 72
Configurable	False
Platforms	Supported on all platforms

local-pref *number*

Description	The value of the LOCAL_PREF path attribute.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* local-pref *number*
Tree	local-pref
Configurable	False
Platforms	Supported on all platforms

med *number*

Description	The value of the MULTI_EXIT_DISC path attribute.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* med *number*
Tree	med
Configurable	False
Platforms	Supported on all platforms

next-hop *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description 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).

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* next-hop *(ipv4-address-with-zone | ipv6-address-with-zone)*

Tree next-hop

Configurable False

Platforms Supported on all platforms

origin *keyword*

Description The value of the ORIGIN path attribute

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* origin *keyword*

Tree origin

Options

- igp
- egp
- incomplete

Configurable False

Platforms Supported on all platforms

originator-id *(ipv4-address | ipv6-address)*

Description The address in the ORIGINATOR_ID attribute added by a route reflector.

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* originator-id *(ipv4-address | ipv6-address)*

Tree originator-id

Configurable False

Platforms Supported on all platforms

pmsi-tunnel

Description A container for the Provider Multicast Service Interface Tunnel Attribute (PTA) of the attribute set.

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel

Tree pmsi-tunnel

Configurable	False
Platforms	Supported on all platforms

flags

Description	A container for the PTA Flags
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel flags
Tree	flags
Configurable	False
Platforms	Supported on all platforms

assisted-replication-type *keyword*

Description	The value of the assisted-replication role type.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel flags assisted-replication-type *keyword*
Tree	assisted-replication-type
Options	• none • ar-replicator • ar-leaf • reserved
Configurable	False
Platforms	Supported on all platforms

leaf-information-required *boolean*

Description	The value of the Leaf Information Required (LIR) flag.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel flags leaf-information-required *boolean*
Tree	leaf-information-required
Configurable	False
Platforms	Supported on all platforms

pruned-flood-list

Description	A container for the optimized ingress replication pruned flood list flags.

Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel flags pruned-flood-list
Tree	pruned-flood-list
Configurable	False
Platforms	Supported on all platforms

broadcast-multicast *keyword*

Description	The value of the broadcast-multicast flag.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel flags pruned-flood-list broadcast-multicast *keyword*
Tree	broadcast-multicast
Options	• 0 • 1
Configurable	False
Platforms	Supported on all platforms

unknown-unicast *keyword*

Description	The value of the unknown-unicast flag.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel flags pruned-flood-list unknown-unicast *keyword*
Tree	unknown-unicast
Options	• 0 • 1
Configurable	False
Platforms	Supported on all platforms

tunnel-endpoint *(ipv4-address | ipv6-address)*

Description	The value of the tunnel-endpoint in the PMSI Tunnel Attribute.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel tunnel-endpoint *(ipv4-address | ipv6-address)*
Tree	tunnel-endpoint
Configurable	False
Platforms	Supported on all platforms

tunnel-type *keyword*

Description The value of the tunnel-type in the PMSI Tunnel Attribute

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel tunnel-type *keyword*

Tree tunnel-type

Options

- no-tunnel
- rsvp-te-p2mp
- mldp-p2mp
- pim-ssm
- pim-sm
- bidir-pim
- ingress-replication
- mldp-mp2mp
- assisted-replication
- bier

Configurable False

Platforms Supported on all platforms

vni *number*

Description The VXLAN Netwpork Identifier

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* pmsi-tunnel vni *number*

Tree vni

Range 0 to 16777215

Configurable False

Platforms Supported on all platforms

unknown-attributes

Description Container for unknown path attributes

Context network-instance name *string* bgp-rib attr-sets attr-set index *number* unknown-attributes

Tree unknown-attributes

Configurable 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*

Description	Set to true if the unknown path attribute has the extended length flag is set to 1.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* unknown-attributes unknown-attribute unknown-attr-index *number* extended *boolean*
Tree	extended
Configurable	False
Platforms	Supported on all platforms

optional *boolean*

Description	Set to true if the unknown path attribute has the optional flag is set to 1.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* unknown-attributes unknown-attribute unknown-attr-index *number* optional *boolean*
Tree	optional
Configurable	False
Platforms	Supported on all platforms

partial *boolean*

Description	Set to true if the unknown path attribute has the partial flag is set to 1.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* unknown-attributes unknown-attribute unknown-attr-index *number* partial *boolean*
Tree	partial
Configurable	False
Platforms	Supported on all platforms

transitive *boolean*

Description	Set to true if the unknown path attribute has the transitive flag is set to 1.
Context	network-instance name *string* bgp-rib attr-sets attr-set index *number* unknown-attributes unknown-attribute unknown-attr-index *number* transitive *boolean*
Tree	transitive

Configurable	False
Platforms	Supported on all platforms

bridge-table

Description	Enable the bridge-table context
Context	network-instance name *string* bridge-table
Tree	bridge-table
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

discard-unknown-dest-mac *boolean*

Description	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.
Context	network-instance name *string* bridge-table discard-unknown-dest-mac *boolean*
Tree	discard-unknown-dest-mac
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-duplication

Description	Configuration of the MAC duplication procedures.
Context	network-instance name *string* bridge-table mac-duplication
Tree	mac-duplication
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

action *keyword*

Description 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:

Context network-instance name *string* bridge-table mac-duplication action *keyword*

Tree action

Default stop-learning

Options

- stop-learning
- blackhole
- oper-down

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description Configurable state of the mac-duplication procedures. Mac-duplication detects duplicate macs that move between different subinterfaces or a subinterface and an evpn destination.

Context network-instance name *string* bridge-table mac-duplication admin-state *keyword*

Tree admin-state

Default enable

Options

- enable
- disable

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

duplicate-entries

Description Enter the duplicate-entries context

Context network-instance name *string* bridge-table mac-duplication duplicate-entries

Tree duplicate-entries

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	macs duplicate on the bridging instance
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string*
Tree	mac
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination *string*

Description	the name of the destination the duplicate mac is installed against in the fdb.
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string* destination *string*
Tree	destination
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-index *number*

Description	A system-wide unique identifier of a subinterface object (system allocated).
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string* destination-index *number*
Tree	destination-index
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-type *keyword*

Description	the type of the destination the duplicate mac is installed against in the fdb.
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string* destination-type *keyword*
Tree	destination-type
Options	• sub-interface • blackhole • irb-interface • vxlan • reserved • evpn-mpls
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dup-detect-time *string*

Description	The date and time when the mac was declared duplicate
Context	network-instance name *string* 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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

hold-down-time-remaining *(keyword | number)*

Description	remaining hold down time for duplicate mac
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string* hold-down-time-remaining *(keyword | number)*
Tree	hold-down-time-remaining
Units	seconds
Options	• indefinite
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

num-moves *number*

Description	Number of moves a mac is allowed within the monitoring-window, before it is declared duplicate.

Context	network-instance name *string* bridge-table mac-duplication num-moves *number*
Tree	num-moves
Range	3 to 10
Default	5
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-learning

Description	Enter the mac-learning context
Context	network-instance name *string* bridge-table mac-learning
Tree	mac-learning
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	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.
Context	network-instance name *string* bridge-table mac-learning admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

aging

Description	Enter the aging context

Context	network-instance name *string* bridge-table mac-learning aging
Tree	aging
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	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.
Context	network-instance name *string* bridge-table mac-learning aging admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

age-time *number*

Description	Configurable aging time for dynamically learned mac addresses
Context	network-instance name *string* bridge-table mac-learning aging age-time *number*
Tree	age-time
Range	60 to 86400
Default	300
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

learnt-entries

Description	Enter the learnt-entries context
Context	network-instance name *string* bridge-table mac-learning learnt-entries

Tree	learnt-entries
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	macs learnt on the bridging instance
Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string*
Tree	mac
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

aging *(number | keyword)*

Description	remaining age time for learnt macs
Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string* aging *(number | keyword)*
Tree	aging
Units	seconds
Options	• disabled
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination *string*

Description	the name of the subinterface where the mac is learnt against.
Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string* destination *string*
Tree	destination
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this learnt mac
Context	network-instance name *string* 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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-relearn-only *boolean*

Description	The value of this leaf indicates that network-instance will not learn any new mac addresses, but will relearn any that are already programmed
Context	network-instance name *string* bridge-table mac-learning mac-relearn-only *boolean*
Tree	mac-relearn-only
Default	true
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-mac-learning *keyword*

Description	The operational state of mac-learning on this network instance.
Context	network-instance name *string* bridge-table mac-learning oper-mac-learning *keyword*
Tree	oper-mac-learning

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.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-mac-learning-disabled-reason *keyword*

Description	The reason for the mac-learning being disabled on this network instance
Context	network-instance name *string* bridge-table mac-learning oper-mac-learning-disabled-reason *keyword*
Tree	oper-mac-learning-disabled-reason
Options	• admin-disabled
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-limit

Description	Bridge Table size and thresholds.
Context	network-instance name *string* bridge-table mac-limit
Tree	mac-limit
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

maximum-entries *number*

Description	Maximum number of mac addresses allowed in the bridge-table.
Context	network-instance name *string* bridge-table mac-limit maximum-entries *number*
Tree	maximum-entries
Range	1 to 8192
Default	250
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

warning-threshold-pct *number*

Description	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%
Context	network-instance name *string* bridge-table mac-limit warning-threshold-pct *number*

Tree	warning-threshold-pct
Range	6 to 100
Default	95
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-table

Description	Enter the mac-table context
Context	network-instance name *string* bridge-table mac-table
Tree	mac-table
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	macs learnt on the bridging instance
Context	network-instance name *string* bridge-table mac-table mac address *string*
Tree	mac
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table mac-table mac address *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination *string*

Description	the name of the destination where the mac is programmed against.

Context	network-instance name *string* bridge-table mac-table mac address *string* destination *string*
Tree	destination
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-index *number*

Description	A system-wide unique identifier of a subinterface object (system allocated).
Context	network-instance name *string* bridge-table mac-table mac address *string* destination-index *number*
Tree	destination-index
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-type *keyword*

Description	the type of the destination the mac installed against in the fdb.
Context	network-instance name *string* bridge-table mac-table mac address *string* destination-type *keyword*
Tree	destination-type
Options	• sub-interface • blackhole • irb-interface • vxlan • reserved • evpn-mpls
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

failed-slots *number*

Description	The list of slot IDs corresponding to the linecards that did not successfully program the mac

Context	network-instance name *string* bridge-table mac-table mac address *string* failed-slots *number*
Tree	failed-slots
Range	1 to 8
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-protected *boolean*

Description	Indicates if the mac is protected in the hardware.
Context	network-instance name *string* bridge-table mac-table mac address *string* is-protected *boolean*
Tree	is-protected
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this mac
Context	network-instance name *string* bridge-table mac-table mac address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

not-programmed-reason *keyword*

Description	The reason why the mac is not programmed
Context	network-instance name *string* bridge-table mac-table mac address *string* not-programmed-reason *keyword*
Tree	not-programmed-reason
Options	• mac-limit • failed-on-slots • no-destination-index

- reserved

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description the type of the mac installed in the fib.

Context network-instance name *string* bridge-table mac-table mac address *string* type *keyword*

Tree type

Options

- static
- duplicate
- learnt
- irb-interface
- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

protect-anycast-gw-mac *boolean*

Description Protect anycast gateway mac's installed in the FDB, when this mac-vrf is part of an IRB.

Context network-instance name *string* bridge-table protect-anycast-gw-mac *boolean*

Tree protect-anycast-gw-mac

Default false

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

proxy-arp

Description	Enable the proxy-arp context
Context	network-instance name *string* bridge-table proxy-arp
Tree	proxy-arp
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	Configurable state of the layer-2 proxy ARP/ND table
Context	network-instance name *string* bridge-table proxy-arp admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

duplicate-entries

Description	Enter the duplicate-entries context
Context	network-instance name *string* bridge-table proxy-arp duplicate-entries
Tree	duplicate-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv4-address *string*

Description	List of duplicate proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-arp duplicate-entries neighbor ipv4-address *string*
Tree	neighbor
Configurable	False

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

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

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

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

is-immutable *boolean*

Description	The immutable property of the proxy entry

Context	network-instance name *string* bridge-table proxy-arp duplicate-entries neighbor ipv4-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp duplicate-entries neighbor ipv4-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp duplicate-entries neighbor ipv4-address *string* state *keyword*
Tree	state
Options	• active • in-active • pending
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dynamic-entries

Description	Enter the dynamic-entries context
Context	network-instance name *string* bridge-table proxy-arp dynamic-entries
Tree	dynamic-entries
Configurable	False

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

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

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

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

is-immutable *boolean*

Description	The immutable property of the proxy entry

Context	network-instance name *string* bridge-table proxy-arp dynamic-entries neighbor ipv4-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-arp dynamic-entries neighbor ipv4-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp dynamic-entries neighbor ipv4-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp dynamic-entries neighbor ipv4-address *string* state *keyword*
Tree	state
Options	• active • in-active

- pending

Configurable False

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

dynamic-learning

Description Enter the dynamic-learning context

Context network-instance name *string* bridge-table proxy-arp dynamic-learning

Tree dynamic-learning

Configurable True

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

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-arp dynamic-learning admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

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

age-time *(keyword | number)*

Description Aging timer value for the proxy entries

When the aging expires, the entry is flushed.

Context network-instance name *string* bridge-table proxy-arp dynamic-learning age-time *(keyword | number)*

Tree	age-time
Range	60 to 86400
Default	never
Units	seconds
Options	• never
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

send-refresh *(number | keyword)*

Description	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.
Context	network-instance name *string* bridge-table proxy-arp dynamic-learning send-refresh *(number | keyword)*
Tree	send-refresh
Range	120 to 86400
Default	never
Options	• never
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn

Description	How proxy arp interacts with evpn
Context	network-instance name *string* bridge-table proxy-arp evpn
Tree	evpn
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

flood

Description	How ARP frames received on a proxy service are flooded into the EVPN network
Context	network-instance name *string* bridge-table proxy-arp evpn flood
Tree	flood
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

gratuitous-arp *boolean*

Description	Whether to flood GARP requests or replies into EVPN
Context	network-instance name *string* bridge-table proxy-arp evpn flood gratuitous-arp *boolean*
Tree	gratuitous-arp
Default	true
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

unknown-arp-req *boolean*

Description	Whether to flood ARP requests (with source squelching) when there is no hit in the bridge-table-proxy-arp table
Context	network-instance name *string* bridge-table proxy-arp evpn flood unknown-arp-req *boolean*
Tree	unknown-arp-req
Default	true
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

evpn-entries

Description	Enter the evpn-entries context
Context	network-instance name *string* bridge-table proxy-arp evpn-entries
Tree	evpn-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv4-address *string*

Description	List of EVPN proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-arp evpn-entries neighbor ipv4-address *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv4-address *string*

Description	IPv4 address of the proxy ARP entry
Context	network-instance name *string* bridge-table proxy-arp evpn-entries neighbor ipv4-address *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp evpn-entries neighbor ipv4-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-arp evpn-entries neighbor ipv4-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False

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

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp evpn-entries neighbor ipv4-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp evpn-entries neighbor ipv4-address *string* state *keyword*
Tree	state
Options	• active • in-active • pending
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ip-duplication

Description	Configuration of the proxy ARP/ND IP duplication procedures
Context	network-instance name *string* bridge-table proxy-arp ip-duplication
Tree	ip-duplication
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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*
Tree	monitoring-window
Range	1 to 15
Default	3
Units	minutes
Configurable	True

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

num-moves *number*

Description	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.
Context	network-instance name *string* bridge-table proxy-arp ip-duplication num-moves *number*
Tree	num-moves
Range	3 to 10
Default	5
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

static-blackhole *boolean*

Description	Whether the anti-spoof MAC is programmed as a black hole static-mac in the mac-table
Context	network-instance name *string* bridge-table proxy-arp ip-duplication static-blackhole *boolean*
Tree	static-blackhole
Default	false
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-down-reason *keyword*

Description	The reason the proxy-type is down on the network-instance
Context	network-instance name *string* bridge-table proxy-arp oper-down-reason *keyword*
Tree	oper-down-reason
Options	• admin-down • no-mcid

- tag-set-not-resolved

Configurable False

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

process-arp-probes *boolean*

Description Determines whether the router processes ARP probe messages.

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.

Context network-instance name *string* bridge-table proxy-arp process-arp-probes *boolean*

Tree process-arp-probes

Default true

Configurable True

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

static-entries

Description Enter the static-entries context

Context network-instance name *string* bridge-table proxy-arp static-entries

Tree static-entries

Configurable True

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

neighbor ipv4-address *string*

Description List of static proxy ARP entries that map an IPv4 address to a MAC address

To configure a static proxy ARP entry a value must be written into this leaf, as well as the link-layer-address leaf.

Context network-instance name *string* bridge-table proxy-arp static-entries neighbor ipv4-address *string*

Tree neighbor

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv4-address *string*

Description	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.
Context	network-instance name *string* bridge-table proxy-arp static-entries neighbor ipv4-address *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp static-entries neighbor ipv4-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-arp static-entries neighbor ipv4-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description 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.

Context network-instance name *string* bridge-table proxy-arp static-entries neighbor ipv4-address *string* link-layer-address *string*

Tree link-layer-address

Configurable True

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

state *keyword*

Description The state of the proxy entry

Context network-instance name *string* bridge-table proxy-arp static-entries neighbor ipv4-address *string* state *keyword*

Tree state

Options

- active
- in-active
- pending

Configurable False

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

statistics

Description Enter the statistics context

Context network-instance name *string* bridge-table proxy-arp statistics

Tree statistics

Configurable False

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

active-entries *number*

Description The total number of active proxy ARP entries.

Context	network-instance name *string* bridge-table proxy-arp statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-active-entries *number*

Description	The total number of inactive proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-arp statistics in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor-origin origin *keyword*

Description	The origin of the proxy entry installed in the table
Context	network-instance name *string* bridge-table proxy-arp statistics neighbor-origin origin *keyword*
Tree	neighbor-origin
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

origin *keyword*

Description	Enter the origin context
Context	network-instance name *string* bridge-table proxy-arp statistics neighbor-origin origin *keyword*
Options	• static • dynamic • evpn • duplicate

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

active-entries *number*

Description	The total number of active proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-arp statistics neighbor-origin origin *keyword* active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-active-entries *number*

Description	The total number of inactive proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-arp statistics neighbor-origin origin *keyword* in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

pending-entries *number*

Description	The total number of pending proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-arp statistics neighbor-origin origin *keyword* pending-entries *number*
Tree	pending-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

table-entries

Description	Enter the table-entries context
Context	network-instance name *string* bridge-table proxy-arp table-entries
Tree	table-entries

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv4-address *string*

Description	List of static and dynamic proxy ARP entries that map an IPv4 address to a MAC address
Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv4-address *string*

Description	IPv4 address resolved by the proxy ARP entry
Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry

Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

origin *keyword*

Description	The origin of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string* origin *keyword*
Tree	origin
Options	• static • dynamic • evpn • duplicate
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-arp table-entries neighbor ipv4-address *string* state *keyword*
Tree	state

Options
- active
- in-active
- pending

Configurable False

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

table-size *number*

Description Maximum number of entries allowed in the proxy table of the network-instance

Context network-instance name *string* bridge-table proxy-arp table-size *number*

Tree table-size

Range 1 to 8192

Default 250

Configurable True

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

trace-options

Description Debug trace-options for Proxy-ARP

Context network-instance name *string* bridge-table proxy-arp trace-options

Tree trace-options

Configurable True

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

flag name *keyword*

Description Tracing parameters

Context network-instance name *string* bridge-table proxy-arp trace-options flag name *keyword*

Tree flag

Configurable True

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

name *keyword*

Description Enter the name context

Context network-instance name *string* bridge-table proxy-arp trace-options flag name *keyword*

Options

- request

  Trace all ARP request protocol packets snooped or generated for proxy-ARP

- reply

  Trace all ARP reply protocol packets snooped or generated for proxy-ARP

Configurable True

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

modifier *keyword*

Description Enter the modifier context

Context network-instance name *string* bridge-table proxy-arp trace-options flag name *keyword* modifier *keyword*

Tree modifier

Options

- detail

  Enables detailed tracing

  Includes both, received and sent packets.

- receive

  Enables tracing for the received packets

- send

  Enables tracing for the sent packets

Configurable True

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

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

admin-state *keyword*

Description	Configurable state of the layer-2 proxy ARP/ND table
Context	network-instance name *string* bridge-table proxy-nd admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

duplicate-entries

Description	Enter the duplicate-entries context
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries
Tree	duplicate-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv6-address *string*

Description	List of duplicate proxy ND entries
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv6-address *string*

Description	IPv6 address of the proxy ND entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

detect-time *string*

Description	The date and time when the proxy entry was declared duplicate
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* detect-time *string*
Tree	detect-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn-override *boolean*

Description	The evpn-override property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* evpn-override *boolean*
Tree	evpn-override
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

hold-down-time-remaining *(keyword | number)*

Description	Remaining hold down time for the duplicate proxy entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* hold-down-time-remaining *(keyword | number)*
Tree	hold-down-time-remaining
Units	seconds

Options	• indefinite
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* state *keyword*
Tree	state
Options	• active • in-active • pending
Configurable	False

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

type *keyword*

Description	The type of the neighbor entry
Context	network-instance name *string* bridge-table proxy-nd duplicate-entries neighbor ipv6-address *string* type *keyword*
Tree	type
Options	• router • host
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dynamic-entries

Description	Enter the dynamic-entries context
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries
Tree	dynamic-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv6-address *string*

Description	List of dynamic proxy ND entries
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv6-address *string*

Description	IPv6 address of the proxy ND entry

Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

aging *(number | keyword)*

Description	The remaining age time for learnt proxy entry
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string* aging *(number | keyword)*
Tree	aging
Units	seconds
Options	• disabled
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn-override *boolean*

Description	The evpn-override property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string* evpn-override *boolean*
Tree	evpn-override
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False

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

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd dynamic-entries neighbor ipv6-address *string* state *keyword*
Tree	state
Options	• active • in-active • pending
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

Configurable True

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

age-time *(keyword | number)*

Description	Aging timer value for the proxy entries When the aging expires, the entry is flushed.
Context	network-instance name *string* bridge-table proxy-nd dynamic-learning age-time *(keyword | number)*
Tree	age-time
Range	60 to 86400
Default	never
Units	seconds
Options	• never
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

send-refresh *(number | keyword)*

Description	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.
Context	network-instance name *string* bridge-table proxy-nd dynamic-learning send-refresh *(number | keyword)*
Tree	send-refresh
Range	120 to 86400
Default	never
Options	• never
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn

Description	How proxy ARP/ND interacts with EVPN
Context	network-instance name *string* bridge-table proxy-nd evpn
Tree	evpn

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise-neighbor-type *keyword*

Description	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.
Context	network-instance name *string* bridge-table proxy-nd evpn advertise-neighbor-type *keyword*
Tree	advertise-neighbor-type
Default	router
Options	• router • host • router-host
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

flood

Description	How Neighbor Discovery frames received on a proxy service are flooded into the EVPN network
Context	network-instance name *string* bridge-table proxy-nd evpn flood
Tree	flood
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

unknown-neighbor-advertise-host *boolean*

Description	Whether to flood Neighbor Advertisement (NA) replies, for type host, into the EVPN network
Context	network-instance name *string* bridge-table proxy-nd evpn flood unknown-neighbor-advertise-host *boolean*
Tree	unknown-neighbor-advertise-host
Default	true

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

unknown-neighbor-advertise-router *boolean*

Description	Whether to flood Neighbor Advertisement (NA) replies, for type router, into the EVPN network
Context	network-instance name *string* bridge-table proxy-nd evpn flood unknown-neighbor-advertise-router *boolean*
Tree	unknown-neighbor-advertise-router
Default	true
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

unknown-neighbor-solicitation *boolean*

Description	Whether to flood Neighbor Solicitation (NS) messages (with source squelching) into the EVPN network
Context	network-instance name *string* bridge-table proxy-nd evpn flood unknown-neighbor-solicitation *boolean*
Tree	unknown-neighbor-solicitation
Default	true
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

evpn-entries

Description	Enter the evpn-entries context
Context	network-instance name *string* bridge-table proxy-nd evpn-entries
Tree	evpn-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv6-address *string*

Description	List of EVPN proxy ND entries.

Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv6-address *string*

Description	IPv6 address of the proxy ND entry
Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn-override *boolean*

Description	The evpn-override property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string* evpn-override *boolean*
Tree	evpn-override
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

state *keyword*

Description	The state of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string* state *keyword*
Tree	state
Options	• active • in-active • pending
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	The type of the neighbor entry

Context network-instance name *string* bridge-table proxy-nd evpn-entries neighbor ipv6-address *string* type *keyword*

Tree type

Options
- router
- host

Configurable False

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

ip-duplication

Description Configuration of the proxy ARP/ND IP duplication procedures

Context network-instance name *string* bridge-table proxy-nd ip-duplication

Tree ip-duplication

Configurable True

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

anti-spoof-mac *string*

Description MAC address associated with the optional anti-spoofing mechanism

Context network-instance name *string* bridge-table proxy-nd ip-duplication anti-spoof-mac *string*

Tree anti-spoof-mac

Configurable True

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

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

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-nd ip-duplication monitoring-window *number*
Tree	monitoring-window
Range	1 to 15
Default	3
Units	minutes
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

num-moves *number*

Description	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.
Context	network-instance name *string* bridge-table proxy-nd ip-duplication num-moves *number*
Tree	num-moves
Range	3 to 10
Default	5
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

static-blackhole *boolean*

Description	Whether the anti-spoof MAC is programmed as a black hole static-mac in the mac-table
Context	network-instance name *string* bridge-table proxy-nd ip-duplication static-blackhole *boolean*
Tree	static-blackhole
Default	false
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-down-reason *keyword*

Description	The reason the proxy-type is down on the network-instance
Context	network-instance name *string* bridge-table proxy-nd oper-down-reason *keyword*
Tree	oper-down-reason
Options	• admin-down • no-mcid • tag-set-not-resolved
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

process-dad-neighbor-solicitations *boolean*

Description	Determines whether the router processes Neighbor Soliciation DAD messages When set to true, Neighbor Soliciation 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.
Context	network-instance name *string* bridge-table proxy-nd process-dad-neighbor-solicitations *boolean*
Tree	process-dad-neighbor-solicitations
Default	true

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

static-entries

Description	Enter the static-entries context
Context	network-instance name *string* bridge-table proxy-nd static-entries
Tree	static-entries
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor ipv6-address *string*

Description	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.
Context	network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string*
Tree	neighbor
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ipv6-address *string*

Description	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.
Context	network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn-override *boolean*

Description	The evpn-override property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string* evpn-override *boolean*
Tree	evpn-override
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	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.

Context network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string* link-layer-address *string*

Tree link-layer-address

Configurable True

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

state *keyword*

Description The state of the proxy entry

Context network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string* state *keyword*

Tree state

Options

- active
- in-active
- pending

Configurable False

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

type *keyword*

Description The type of the neighbor entry

Context network-instance name *string* bridge-table proxy-nd static-entries neighbor ipv6-address *string* type *keyword*

Tree type

Default router

Options

- router
- host

Configurable True

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

statistics

Description Enter the statistics context

Context network-instance name *string* bridge-table proxy-nd statistics

Tree	statistics
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

active-entries *number*

Description	The total number of active proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-nd statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-active-entries *number*

Description	The total number of inactive proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-nd statistics in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor-origin origin *keyword*

Description	The origin of the proxy entry installed in the table
Context	network-instance name *string* bridge-table proxy-nd statistics neighbor-origin origin *keyword*
Tree	neighbor-origin
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

origin *keyword*

Description Enter the origin context

Context network-instance name *string* bridge-table proxy-nd statistics neighbor-origin origin *keyword*

Options
- static
- dynamic
- evpn
- duplicate

Configurable False

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

active-entries *number*

Description The total number of active proxy ARP entries.

Context network-instance name *string* bridge-table proxy-nd statistics neighbor-origin origin *keyword* active-entries *number*

Tree active-entries

Default 0

Configurable False

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

in-active-entries *number*

Description The total number of inactive proxy ARP entries.

Context network-instance name *string* bridge-table proxy-nd statistics neighbor-origin origin *keyword* in-active-entries *number*

Tree in-active-entries

Default 0

Configurable False

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

pending-entries *number*

Description The total number of pending proxy ARP entries.

Context	network-instance name *string* bridge-table proxy-nd statistics neighbor-origin origin *keyword* pending-entries *number*
Tree	pending-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-entries *number*

Description	The total number of proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-nd statistics neighbor-origin origin *keyword* total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

pending-entries *number*

Description	The total number of pending proxy ARP entries.
Context	network-instance name *string* bridge-table proxy-nd statistics pending-entries *number*
Tree	pending-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

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

evpn-override *boolean*

Description	The evpn-override property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* evpn-override *boolean*
Tree	evpn-override
Default	false

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

is-immutable *boolean*

Description	The immutable property of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* is-immutable *boolean*
Tree	is-immutable
Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this proxy entry
Context	network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

link-layer-address *string*

Description	The resolving MAC address of the proxy entry
Context	network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* link-layer-address *string*
Tree	link-layer-address
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

origin *keyword*

Description The origin of the proxy entry

Context network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* origin *keyword*

Tree origin

Options

- static
- dynamic
- evpn
- duplicate

Configurable False

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

state *keyword*

Description The state of the proxy entry

Context network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* state *keyword*

Tree state

Options

- active
- in-active
- pending

Configurable False

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

type *keyword*

Description The type of the neighbor entry

Context network-instance name *string* bridge-table proxy-nd table-entries neighbor ipv6-address *string* type *keyword*

Tree type

Options

- router
- host

Configurable False

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

table-size *number*

Description	Maximum number of entries allowed in the proxy table of the network-instance
Context	network-instance name *string* bridge-table proxy-nd table-size *number*
Tree	table-size
Range	1 to 8192
Default	250
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

trace-options

Description	Debug traceoptions for Proxy-ARP
Context	network-instance name *string* bridge-table proxy-nd trace-options
Tree	trace-options
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

flag name *keyword*

Description	Tracing parameters
Context	network-instance name *string* bridge-table proxy-nd trace-options flag name *keyword*
Tree	flag
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

name *keyword*

Description	Enter the name context

Context network-instance name *string* bridge-table proxy-nd trace-options flag name *keyword*

Options

- solicitation

  Trace all Neighbor Solicitation packets snooped or generated for proxy ND

- advertisement

  Trace all Neighbor Advertisement packets snooped or generated for proxy ND

Configurable True

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

modifier *keyword*

Description Enter the modifier context

Context network-instance name *string* bridge-table proxy-nd trace-options flag name *keyword* modifier *keyword*

Tree modifier

Options

- detail

  To enable detailed tracing, including both received and sent packets

- receive

  To enable tracing for the received packets

- send

  To enable tracing for the sent packets

Configurable True

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

reserved-macs

Description Enter the reserved-macs context

Context network-instance name *string* bridge-table reserved-macs

Tree reserved-macs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	reserved macs on the bridging instance
Context	network-instance name *string* bridge-table reserved-macs mac address *string*
Tree	mac
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table reserved-macs mac address *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

users application *string*

Description	applications reserving this mac
Context	network-instance name *string* bridge-table reserved-macs mac address *string* users application *string*
Tree	users
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

application *string*

Description	Enter the application context
Context	network-instance name *string* bridge-table reserved-macs mac address *string* users application *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

static-mac

Description	Enter the static-mac context
Context	network-instance name *string* bridge-table static-mac
Tree	static-mac
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	static macs configured on the bridging instance
Context	network-instance name *string* bridge-table static-mac mac address *string*
Tree	mac
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table static-mac mac address *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination *(keyword | subinterface-all)*

Description	the destination where the mac is programmed against.
Context	network-instance name *string* bridge-table static-mac mac address *string* destination *(keyword | subinterface-all)*
Tree	destination
String Length	5 to 25
Options	• blackhole
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Enter the statistics context
Context	network-instance name *string* bridge-table statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

active-entries *number*

Description	The total number of entries that are active in the mac-table.
Context	network-instance name *string* bridge-table statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

failed-entries *number*

Description	The total number of macs, which have not been programmed on atleast one slot
Context	network-instance name *string* bridge-table statistics failed-entries *number*
Tree	failed-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

failed-entries *number*

Description	The total number of macs of this type, which have not been programmed on atleast one slot
Context	network-instance name *string* bridge-table statistics mac-type type *keyword* failed-entries *number*

Tree	failed-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-entries *number*

Description	The total number of macs of this type , active and inactive, that are present in the mac-table.
Context	network-instance name *string* bridge-table statistics mac-type type *keyword* total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-entries *number*

Description	The total number of macs, active and inactive, that are present in the mac-table.
Context	network-instance name *string* bridge-table statistics total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

description *string*

Description	A user-entered description of this network instance.
Context	network-instance name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

icmp

Description	Enter the icmp context
Context	network-instance name *string* icmp
Tree	icmp
Configurable	False
Platforms	Supported on all platforms

statistics

Description	ICMP version 4 statistics
Context	network-instance name *string* icmp statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

last-clear *string*

Description	Timestamp of the last time the interface counters were cleared.
Context	network-instance name *string* icmp statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

total

Description	Aggregate statistics, counting all ICMP message types
Context	network-instance name *string* icmp statistics total
Tree	total
Configurable	False
Platforms	Supported on all platforms

in-error-packets *number*

Description	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.)
Context	network-instance name *string* icmp statistics total in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-packets *number*

Description	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.
Context	network-instance name *string* icmp statistics total in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-error-packets *number*

Description	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'
Context	network-instance name *string* icmp statistics total out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	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.

Context	network-instance name *string* icmp statistics total out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

type name *keyword*

Description	Enter the type list instance
Context	network-instance name *string* icmp statistics type name *keyword*
Tree	type
Configurable	False
Platforms	Supported on all platforms

name *keyword*

Description	Enter the name context
Context	network-instance name *string* icmp statistics type name *keyword*
Options	• echo-reply • dest-unreachable • redirect • echo • rtr-advertisement • rtr-selection • time-exceeded • param-problem • timestamp • timestamp-reply
Configurable	False
Platforms	Supported on all platforms

in-packets *number*

Description	The total number of ICMPv4 messages of this type that the network instance received and extracted successfully to the CPM.

Context	network-instance name *string* icmp statistics type name *keyword* in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-error-packets *number*

Description	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'
Context	network-instance name *string* icmp statistics type name *keyword* out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	The total number of ICMPv4 messages of this type that the network instance attempted to send.
Context	network-instance name *string* icmp statistics type name *keyword* out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

icmp6

Description	Enter the icmp6 context
Context	network-instance name *string* icmp6
Tree	icmp6
Configurable	False
Platforms	Supported on all platforms

statistics

Description	ICMP version 6 statistics
Context	network-instance name *string* icmp6 statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

last-clear *string*

Description	Timestamp of the last time the interface counters were cleared.
Context	network-instance name *string* icmp6 statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

total

Description	Aggregate statistics, counting all ICMP message types
Context	network-instance name *string* icmp6 statistics total
Tree	total
Configurable	False
Platforms	Supported on all platforms

in-error-packets *number*

Description	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.)
Context	network-instance name *string* icmp6 statistics total in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-packets *number*

Description	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.
Context	network-instance name *string* icmp6 statistics total in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-error-packets *number*

Description	The number of ICMPv6 messages that could not be sent from this network instance due to issues such as 'no route to the source'
Context	network-instance name *string* icmp6 statistics total out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	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.
Context	network-instance name *string* icmp6 statistics total out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

type name *keyword*

Description	Enter the type list instance
Context	network-instance name *string* icmp6 statistics type name *keyword*
Tree	type

Configurable False

Platforms Supported on all platforms

name *keyword*

Description Enter the name context

Context network-instance name *string* icmp6 statistics type name *keyword*

Options

- dest-unreachable
- packet-too-big
- time-exceeded
- param-problem
- echo-request
- echo-reply
- rtr-solicitation
- rtr-advertisement
- nbr-solicitation
- nbr-advertisement
- redirect

Configurable False

Platforms Supported on all platforms

in-packets *number*

Description The total number of ICMPv6 messages of this type that the network instance received and extracted successfully to the CPM.

Context network-instance name *string* icmp6 statistics type name *keyword* in-packets *number*

Tree in-packets

Default 0

Configurable False

Platforms Supported on all platforms

out-error-packets *number*

Description 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'

Context	network-instance name *string* icmp6 statistics type name *keyword* out-error-packets *number*
Tree	out-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	The total number of ICMPv6 messages of this type that the network instance attempted to send.
Context	network-instance name *string* icmp6 statistics type name *keyword* out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

inter-instance-policies

Description	Policies for leaking routes between this network instance and other network instances
Context	network-instance name *string* inter-instance-policies
Tree	inter-instance-policies
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface name *string*

Description	List of subinterfaces used by this network-instance
Context	network-instance name *string* interface name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the subinterface bound to this network-instance
Context	network-instance name *string* interface name *string*

String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

bridge-table

Description	Enable the bridge-table context
Context	network-instance name *string* interface name *string* bridge-table
Tree	bridge-table
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-relearn-only *boolean*

Description	The value of this leaf indicates that the interface will not learn any new mac addresses, but will relearn any that are already programmed
Context	network-instance name *string* interface name *string* bridge-table mac-relearn-only *boolean*
Tree	mac-relearn-only
Default	true
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

multicast-forwarding *keyword*

Description	The type of multicast data forwarded by this subinterface.
Context	network-instance name *string* interface name *string* bridge-table multicast-forwarding *keyword*
Tree	multicast-forwarding
Options	• none • BUM • unknown-unicast • broadcast-mcast
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-mac-learning *keyword*

Description The operational state of mac-learning on this subinterface.

Context network-instance name *string* interface name *string* bridge-table oper-mac-learning *keyword*

Tree oper-mac-learning

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.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-mac-learning-disabled-reason *keyword*

Description The reason for the mac-learning being disabled on this interface

Context network-instance name *string* interface name *string* bridge-table oper-mac-learning-disabled-reason *keyword*

Tree oper-mac-learning-disabled-reason

Options

- admin-disabled
- mac-dup-detected

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

index *number*

Description network instance allocated sub interface index

Context network-instance name *string* interface name *string* index *number*

Tree index

Default 0

Configurable False

Platforms Supported on all platforms

interface-ref

Description Reference to a subinterface

Context network-instance name *string* interface name *string* interface-ref

Tree interface-ref

Configurable True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *reference*

Description	Reference to a base interface, for example a port or LAG
Context	network-instance name *string* interface name *string* interface-ref interface *reference*
Tree	interface
Reference	interface name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subinterface *reference*

Description	Reference to a subinterface This requires the base interface to be specified using the interface leaf in this container.
Context	network-instance name *string* interface name *string* interface-ref subinterface *reference*
Tree	subinterface
Reference	interface name *string* subinterface index *number*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-down-reason *keyword*

Description	The reason for the interface being down in the network-instance
Context	network-instance name *string* interface name *string* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• ip-addr-missing • ip-addr-overlap • subif-down • net-inst-down

- vrf-type-mismatch
- mac-dup-detected
- associated-mac-vrf-down
- mac-vrf-association-missing
- ip-vrf-association-missing
- associated-ip-vrf-down
- evpn-mh-standby
- interface-ref-missing

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description The operational state of this subinterface.

Context network-instance name *string* interface name *string* 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.

Configurable False

Platforms Supported on all platforms

ip-forwarding

Description Forwarding options that apply to the entire network instance.

Context network-instance name *string* ip-forwarding

Tree ip-forwarding

Configurable True

Platforms Supported on all platforms

last-resort-lookup

Description Enter the last-resort-lookup context

Context network-instance name *string* ip-forwarding last-resort-lookup

Tree last-resort-lookup

Configurable True

Platforms Supported on all platforms

network-instance *reference*

Description 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

Context network-instance name *string* ip-forwarding last-resort-lookup network-instance *reference*

Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

receive-ipv4-check *boolean*

Description	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.
Context	network-instance name *string* ip-forwarding receive-ipv4-check *boolean*
Tree	receive-ipv4-check
Configurable	True
Platforms	Supported on all platforms

receive-ipv6-check *boolean*

Description	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 subinterfaces of the network-instance that are up, even if they do not have any IPv6 addresses.
Context	network-instance name *string* ip-forwarding receive-ipv6-check *boolean*
Tree	receive-ipv6-check
Configurable	True
Platforms	Supported on all platforms

ip-load-balancing

Description	Container for IP load-balancing options that are specific to the network-instance
Context	network-instance name *string* ip-load-balancing
Tree	ip-load-balancing
Configurable	True

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

resilient-hash-prefix ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description	List of IPv4 and IPv6 prefixes which should be programmed for resilient ECMP hashing.
Context	network-instance name *string* ip-load-balancing resilient-hash-prefix ip-prefix *(ipv4-prefix | ipv6-prefix)*
Tree	resilient-hash-prefix
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description	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.
Context	network-instance name *string* ip-load-balancing resilient-hash-prefix ip-prefix *(ipv4-prefix | ipv6-prefix)*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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

mpls

Description	Enable the mpls context
Context	network-instance name *string* mpls
Tree	mpls
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

icmp-tunneling *boolean*

Description	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. 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.

Context	network-instance name *string* mpls icmp-tunneling *boolean*
Tree	icmp-tunneling
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

static-entry top-label *number* preference *number*

Description	Enter the static-entry list instance
Context	network-instance name *string* mpls static-entry top-label *number* preference *number*
Tree	static-entry
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

top-label *number*

Description	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.
Context	network-instance name *string* mpls static-entry top-label *number* preference *number*
Range	16 to 1048575
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

preference *number*

Description	For a given top label value the entry with the lowest preference is selected as the active entry
Context	network-instance name *string* mpls static-entry top-label *number* preference *number*
Range	0 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Used to disable the entire static route and all its next-hops.
Context	network-instance name *string* mpls static-entry top-label *number* preference *number* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

collect-stats *boolean*

Description	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
Context	network-instance name *string* mpls static-entry top-label *number* preference *number* collect-stats *boolean*
Tree	collect-stats
Default	false
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

installed *boolean*

Description	Indicates whether the MPLS route entry was programmed in the data path.
Context	network-instance name *string* mpls static-entry top-label *number* preference *number* installed *boolean*
Tree	installed
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

next-hop-group *reference*

Description	Enter the next-hop-group context
Context	network-instance name *string* mpls static-entry top-label *number* preference *number* next-hop-group *reference*
Tree	next-hop-group

Reference	network-instance name *string* next-hop-groups group name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

operation *keyword*

Description	The operation to be performed with the top label.
Context	network-instance name *string* mpls static-entry top-label *number* preference *number* operation *keyword*
Tree	operation
Default	swap
Options	• pop • swap
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

resolved-next-hop-group-id *reference*

Description	Enter the resolved-next-hop-group-id context
Context	network-instance name *string* mpls static-entry top-label *number* preference *number* resolved-next-hop-group-id *reference*
Tree	resolved-next-hop-group-id
Reference	network-instance name *string* route-table next-hop-group index *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

static-label-block *reference*

Description	Enter the static-label-block context
Context	network-instance name *string* mpls static-label-block *reference*
Tree	static-label-block
Reference	system mpls label-ranges static name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* mpls static-label-block-status *keyword*

Tree static-label-block-status

Options
- available
- unavailable

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls-forwarding

Description Enter the mpls-forwarding context

Context network-instance name *string* mpls-forwarding

Tree mpls-forwarding

Configurable True

Platforms Supported on all platforms

forward-received-packets *boolean*

Description 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'.

Context network-instance name *string* mpls-forwarding forward-received-packets *boolean*

Tree forward-received-packets

Configurable True

Platforms Supported on all platforms

mtu

Description Top-level container for configuration and state data related to network-instance MTU

Context network-instance name *string* mtu

Tree	mtu
Configurable	True
Platforms	Supported on all platforms

path-mtu-discovery *boolean*

Description	Enables or disables path MTU discovery in this network-instance This is controlled via the kernel ip_no_pmtu_disc 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.
Context	network-instance name *string* mtu path-mtu-discovery *boolean*
Tree	path-mtu-discovery
Default	true
Configurable	True
Platforms	Supported on all platforms

multicast-forwarding-information-base

Description	Enter the multicast-forwarding-information-base context
Context	network-instance name *string* multicast-forwarding-information-base
Tree	multicast-forwarding-information-base
Configurable	False
Platforms	Supported on all platforms

multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*

Description	List of all the MFIB entries in the instance
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*

Tree	multicast-route
Configurable	False
Platforms	Supported on all platforms

source *(ipv4-address | ipv6-address)*

Description	Source IP address of the MFIB entry
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*
Configurable	False
Platforms	Supported on all platforms

group *(ipv4-address | ipv6-address)*

Description	Multicast group address of the MFIB entry
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*
Configurable	False
Platforms	Supported on all platforms

last-update *string*

Description	Last update of this MFIB entry
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

outgoing-interface index *number*

Description	List of the outgoing interfaces for this MFIB entry

Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* outgoing-interface index *number*
Tree	outgoing-interface
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	network instance allocated sub interface index
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* outgoing-interface index *number*
Configurable	False
Platforms	Supported on all platforms

forward *boolean*

Description	Whether the outgoing interface is in forwarding state
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* outgoing-interface index *number* forward *boolean*
Tree	forward
Configurable	False
Platforms	Supported on all platforms

outgoing-next-hop-group index *number*

Description	List of the outgoing tunnel next-hop-groups associated with this MFIB entry
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* outgoing-next-hop-group index *number*
Tree	outgoing-next-hop-group
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	Next-hop-group allocated index
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* outgoing-next-hop-group index *number*
Configurable	False
Platforms	Supported on all platforms

forward *boolean*

Description	Whether the outgoing next-hop-group is in forwarding state
Context	network-instance name *string* multicast-forwarding-information-base multicast-route source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* outgoing-next-hop-group index *number* forward *boolean*
Tree	forward
Configurable	False
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
Context	network-instance name *string* next-hop-groups group name *string* nexthop index *number* failure-detection enable-bfd local-address *(ipv4-address | ipv6-address)*
Tree	local-address
Configurable	True
Platforms	Supported on all platforms

local-discriminator *number*

Description	The local discriminator to be used for the associated BFD session
Context	network-instance name *string* next-hop-groups group name *string* nexthop index *number* failure-detection enable-bfd local-discriminator *number*
Tree	local-discriminator
Range	1 to 16384
Configurable	True
Platforms	Supported on all platforms

remote-discriminator *number*

Description	The remote discriminator to be used for the associated BFD session
Context	network-instance name *string* next-hop-groups group name *string* nexthop index *number* failure-detection enable-bfd remote-discriminator *number*
Tree	remote-discriminator

Range	1 to 16384
Configurable	True
Platforms	Supported on all platforms

ip-address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	The next-hop IPv4 or IPv6 address If the IPv6 address is a link-local address then the zoned format must be used
Context	network-instance name *string* next-hop-groups group name *string* nexthop index *number* ip-address *(ipv4-address-with-zone | ipv6-address-with-zone)*
Tree	ip-address
Configurable	True
Platforms	Supported on all platforms

pushed-mpls-label-stack *(number | keyword)*

Description	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.
Context	network-instance name *string* next-hop-groups group name *string* nexthop index *number* pushed-mpls-label-stack *(number | keyword)*
Tree	pushed-mpls-label-stack
Range	16 to 1048575
Options	• IPV4_EXPLICIT_NULL • IPV6_EXPLICIT_NULL • IMPLICIT_NULL
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	1

resolve *boolean*

Description	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.

Context network-instance name *string* next-hop-groups group name *string* nexthop index *number* resolve *boolean*

Tree resolve

Default true

Configurable True

Platforms Supported on all platforms

oper-down-reason *keyword*

Description The reason the network-instance is down

Context network-instance name *string* oper-down-reason *keyword*

Tree oper-down-reason

Options

- admin-down
- no-mcid

Configurable False

Platforms Supported on all platforms

oper-mac-vrf-mtu *number*

Description Operational l2-mtu of the mac-vrf network-instance. Calculated as the lowest l2-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.

Context network-instance name *string* oper-mac-vrf-mtu *number*

Tree oper-mac-vrf-mtu

Range 1492 to 9500

Units bytes

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description This leaf contains the operational state of the network instance.

Context network-instance name *string* 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.

Configurable	False
Platforms	Supported on all platforms

policy-forwarding

Description	Configuration and operational state relating to policy-forwarding within a network instance.
Context	network-instance name *string* policy-forwarding
Tree	policy-forwarding
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface subinterface *string*

Description	List of subinterfaces that use the policy forwarding policy.
Context	network-instance name *string* policy-forwarding interface subinterface *string*
Tree	interface
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subinterface *string*

Description	Name of the subinterface.
Context	network-instance name *string* policy-forwarding interface subinterface *string*
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface-ref

Description	Reference to a subinterface
Context	network-instance name *string* policy-forwarding interface subinterface *string* interface-ref
Tree	interface-ref
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *reference*

Description	Reference to a base interface, for example a port or LAG
Context	network-instance name *string* policy-forwarding interface subinterface *string* interface-ref interface *reference*
Tree	interface
Reference	interface name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subinterface *reference*

Description	Reference to a subinterface This requires the base interface to be specified using the interface leaf in this container.
Context	network-instance name *string* policy-forwarding interface subinterface *string* interface-ref subinterface *reference*
Tree	subinterface
Reference	interface name *string* subinterface index *number*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
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*
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

description *string*

Description	Description string for the policy
Context	network-instance name *string* policy-forwarding policy policy-id *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rule sequence-id *number*

Description	List of policy forwarding rules.
Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number*
Tree	rule
Configurable	True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number*
Range	0 to 128
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

action

Description	Container for the actions to be applied to packets matching the policy forwarding rule.
Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* action
Tree	action
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

network-instance *reference*

Description	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.
Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* action network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

description *string*

Description	Description string for the rule

Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

match

Description	Container for the conditions that determine whether a packet matches this entry
Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* match
Tree	match
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4

Description	Container for match conditions associated with IPv4 header fields If no match conditions are provided then no IPv4 packets are matched.
Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* match ipv4
Tree	ipv4
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* match ipv4 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocol *(number | keyword)*

Description An IPv4 packet matches this condition if its IP protocol type field matches the specified value

Context network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* match ipv4 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-ip

Description Packet matching criteria based on source IPv4 address

Context network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* match ipv4 source-ip

Tree source-ip

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description Match a packet if its source IP address is within the specified IPv4 prefix.

Context network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* match ipv4 source-ip prefix *string*

Tree prefix

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tcam-entries *number*

Description The number of TCAM entries required to implement this rule.

Context	network-instance name *string* policy-forwarding policy policy-id *string* rule sequence-id *number* tcam-entries *number*
Tree	tcam-entries
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tcam-entries *number*

Description	The number of TCAM entries required to implement this entire policy.
Context	network-instance name *string* policy-forwarding policy policy-id *string* tcam-entries *number*
Tree	tcam-entries
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *keyword*

Description	The type of the policy
Context	network-instance name *string* policy-forwarding policy policy-id *string* type *keyword*
Tree	type
Default	vrf-selection-policy
Options	• pbr-policy The policy reflects a policy-based routing policy that supports generic PBR actions. • vrf-selection-policy The policy is used only to classify incoming packets into corresponding network instances.
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocols

Description	The routing protocols that are enabled for this network-instance.
Context	network-instance name *string* protocols
Tree	protocols
Configurable	True

Platforms Supported on all platforms

bgp

Description Enable the bgp context

Context network-instance name *string* protocols bgp

Tree bgp

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description 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.

Context network-instance name *string* protocols bgp admin-state *keyword*

Tree admin-state

Default enable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

afi-safi afi-safi-name *identityref*

Description List of address families supported by the BGP instance

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref*

Tree afi-safi

Configurable 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)
- l3vpn-ipv4-unicast
  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast
  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)
- ipv4-labeled-unicast
  Labeled IPv4 unicast routes (AFI 1, SAFI 4)
- ipv6-labeled-unicast
  Labeled IPv6 unicast routes (AFI 2, SAFI 4)
- 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 and used, being best routes

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

receive *boolean*

Description	Enable capability negotiation to receive multiple path advertisements from a single peer for a single NLRI belonging to the AFI/SAFI
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* add-paths receive *boolean*
Tree	receive
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send *boolean*

Description	Enable capability negotiation to send multiple path advertisements to a single peer for a single NLRI belonging to the AFI/SAFI
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* add-paths send *boolean*
Tree	send
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send-max *number*

Description	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.
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* add-paths send-max *number*
Tree	send-max
Range	1 to 16
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send-multipath

Description	Send the used paths for a single NLRI, including all paths that are multipaths.
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* add-paths send-multipath
Tree	send-multipath
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	This leaf indicates whether the AFI-SAFI is enabled for the instance
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

evpn

Description	Options related to the EVPN address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* evpn
Tree	evpn
Configurable	True
Platforms	Supported on all platforms

advertise-ipv6-next-hops *boolean*

Description 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 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.

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* evpn advertise-ipv6-next-hops *boolean*

Tree advertise-ipv6-next-hops

Default false

Configurable True

Platforms Supported on all platforms

inter-as-vpn *boolean*

Description 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.

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* evpn inter-as-vpn *boolean*

Tree inter-as-vpn

Default false

Configurable True

Platforms Supported on all platforms

keep-all-routes *boolean*

Description 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.

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* evpn keep-all-routes *boolean*

Tree keep-all-routes

Default false

Configurable	True
Platforms	Supported on all platforms

rapid-update *boolean*

Description	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.
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* evpn rapid-update *boolean*
Tree	rapid-update
Default	false
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to advertised BGP routes
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* import-policy *reference*
Tree	import-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-unicast

Description	Options related to the IPv4-unicast address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast
Tree	ipv4-unicast
Configurable	True
Platforms	Supported on all platforms

advertise-ipv6-next-hops *boolean*

Description	Enables advertisement of IPv4 routes with IPv6 next-hops
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast advertise-ipv6-next-hops *boolean*
Tree	advertise-ipv6-next-hops
Default	false
Configurable	True
Platforms	Supported on all platforms

convergence

Description	Options for controlling and monitoring routing convergence of the relevant address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence
Tree	convergence
Configurable	True
Platforms	Supported on all platforms

converged-peers *number*

Description	The number of peers that have sent an EOR marker for the address family since the last BGP restart
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence converged-peers *number*
Tree	converged-peers
Configurable	False

Platforms	Supported on all platforms

convergence-state *keyword*

Description	Enter the convergence-state context
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence convergence-state *keyword*
Tree	convergence-state
Options	• waiting BGP has recently restarted and no sessions have re-established yet • started BGP has recently restarted and at least one session has re-established with support of the address family • partial BGP has recently restarted and at least one session has advertised an End-of-RIB marker for the address family. • 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 • converged All non-slow peers that support the address family have have advertised the End-of-RIB marker for the address family
Configurable	False
Platforms	Supported on all platforms

convergence-time *number*

Description	The elapsed time in seconds, starting from the last BGP restart, to reach the converged state for the address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence convergence-time *number*
Tree	convergence-time
Configurable	False
Platforms	Supported on all platforms

first-up-peer-time *number*

Description	The time when the first session supporting the address family came up, measured from the time that the BGP instance restarted
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence first-up-peer-time *number*
Tree	first-up-peer-time
Configurable	False
Platforms	Supported on all platforms

last-up-peer-time *number*

Description	The time when the last session supporting the address family came up, measured from the time that the BGP instance restarted
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence last-up-peer-time *number*
Tree	last-up-peer-time
Configurable	False
Platforms	Supported on all platforms

max-wait-to-advertise *number*

Description	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.
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence max-wait-to-advertise *number*
Tree	max-wait-to-advertise
Range	0 to 3600
Default	0
Configurable	True
Platforms	Supported on all platforms

oper-max-wait-to-advertise *number*

Description	The operational value of the max-wait-to-advertise timer for the address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence oper-max-wait-to-advertise *number*
Tree	oper-max-wait-to-advertise
Range	0 to 10800
Configurable	False
Platforms	Supported on all platforms

up-peers *number*

Description	The number of BGP sessions (configured and dynamic) that support the address family and that are currently in the established state
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence up-peers *number*
Tree	up-peers
Configurable	False
Platforms	Supported on all platforms

up-peers-when-min-expired *number*

Description	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
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast convergence up-peers-when-min-expired *number*
Tree	up-peers-when-min-expired
Configurable	False
Platforms	Supported on all platforms

next-hop-resolution

Description	Options for controlling next-hop resolution procedures
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution
Tree	next-hop-resolution
Configurable	True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-next-hops

Description	Options related to the resolution of BGP next-hops that are IPv4 addresses
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv4-next-hops
Tree	ipv4-next-hops
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tunnel-resolution

Description	Options related to resolution using tunnels in the tunnel table
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv4-next-hops tunnel-resolution
Tree	tunnel-resolution
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allowed-tunnel-types *identityref*

Description	List of allowed tunnel types
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv4-next-hops tunnel-resolution allowed-tunnel-types *identityref*
Tree	allowed-tunnel-types
Options	• ip-in-ip Tunnels with IP-in-IP encapsulation • sr-isis Segment routing using MPLS dataplane, programmed by IS-IS • sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2 • sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3 • sr-policy-mpls-colored Tunnel setup using TE-POLICY.

- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.
- vxlan

  Tunnels based on VXLAN encapsulation

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mode *keyword*

Description Mode to control the order of tunnel resolution compared to route resolution

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv4-next-hops tunnel-resolution mode *keyword*

Tree mode

Default disabled

Options

- prefer
- require
- disabled

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-next-hops

Description Options related to the resolution of BGP next-hops that are IPv6 addresses

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv6-next-hops

Tree ipv6-next-hops

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tunnel-resolution

Description Options related to resolution using tunnels in the tunnel table

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv6-next-hops tunnel-resolution

Tree	tunnel-resolution
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allowed-tunnel-types *identityref*

Description	List of allowed tunnel types
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv6-next-hops tunnel-resolution allowed-tunnel-types *identityref*
Tree	allowed-tunnel-types
Options	• ip-in-ip Tunnels with IP-in-IP encapsulation • sr-isis Segment routing using MPLS dataplane, programmed by IS-IS • sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2 • sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3 • sr-policy-mpls-colored Tunnel setup using TE-POLICY. • sr-policy-mpls-uncolored Tunnel setup using TE-POLICY. • vxlan Tunnels based on VXLAN encapsulation
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mode *keyword*

Description	Mode to control the order of tunnel resolution compared to route resolution
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast next-hop-resolution ipv6-next-hops tunnel-resolution mode *keyword*

Tree	mode
Default	disabled
Options	• prefer • require • disabled
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

receive-ipv6-next-hops *boolean*

Description	Enables the advertisement of the RFC 8950 capability to receive IPv4 routes with IPv6 next-hops When set to true, BGP advertises an extended NH encoding (RFC 8950) capability to its peers. This capability indicates that local router is prepared to accept BGP routes for the AFI/SAFI with IPv6 next-hops from peers in the scope of the command. When set to false, BGP handles received AFI/SAFI routes with IPv6 next-hops as an error and applies treat-as-withdraw.
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv4-unicast receive-ipv6-next-hops *boolean*
Tree	receive-ipv6-next-hops
Default	false
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 afi-safi afi-safi-name *identityref* ipv6-unicast
Tree	ipv6-unicast
Configurable	True
Platforms	Supported on all platforms

convergence

Description Options for controlling and monitoring routing convergence of the relevant address family

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence

Tree convergence

Configurable True

Platforms Supported on all platforms

converged-peers *number*

Description The number of peers that have sent an EOR marker for the address family since the last BGP restart

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence converged-peers *number*

Tree converged-peers

Configurable False

Platforms Supported on all platforms

convergence-state *keyword*

Description Enter the convergence-state context

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence convergence-state *keyword*

Tree convergence-state

Options

- waiting

  BGP has recently restarted and no sessions have re-established yet

- started

  BGP has recently restarted and at least one session has re-established with support of the address family

- partial

  BGP has recently restarted and at least one session has advertised an End-of-RIB marker for the address family.

- 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

- converged

All non-slow peers that support the address family have have advertised the End-of-RIB marker for the address family

Configurable	False
Platforms	Supported on all platforms

convergence-time *number*

Description	The elapsed time in seconds, starting from the last BGP restart, to reach the converged state for the address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence convergence-time *number*
Tree	convergence-time
Configurable	False
Platforms	Supported on all platforms

first-up-peer-time *number*

Description	The time when the first session supporting the address family came up, measured from the time that the BGP instance restarted
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence first-up-peer-time *number*
Tree	first-up-peer-time
Configurable	False
Platforms	Supported on all platforms

last-up-peer-time *number*

Description	The time when the last session supporting the address family came up, measured from the time that the BGP instance restarted
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence last-up-peer-time *number*
Tree	last-up-peer-time
Configurable	False
Platforms	Supported on all platforms

max-wait-to-advertise *number*

Description	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.
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence max-wait-to-advertise *number*
Tree	max-wait-to-advertise
Range	0 to 3600
Default	0
Configurable	True
Platforms	Supported on all platforms

oper-max-wait-to-advertise *number*

Description	The operational value of the max-wait-to-advertise timer for the address family
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence oper-max-wait-to-advertise *number*
Tree	oper-max-wait-to-advertise
Range	0 to 10800
Configurable	False
Platforms	Supported on all platforms

up-peers *number*

Description	The number of BGP sessions (configured and dynamic) that support the address family and that are currently in the established state
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence up-peers *number*
Tree	up-peers
Configurable	False
Platforms	Supported on all platforms

up-peers-when-min-expired *number*

Description	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
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast convergence up-peers-when-min-expired *number*
Tree	up-peers-when-min-expired
Configurable	False
Platforms	Supported on all platforms

next-hop-resolution

Description	Options for controlling next-hop resolution procedures
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution
Tree	next-hop-resolution
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-next-hops

Description	Options related to the resolution of BGP next-hops that are IPv4 addresses
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv4-next-hops
Tree	ipv4-next-hops
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tunnel-resolution

Description	Options related to resolution using tunnels in the tunnel table
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv4-next-hops tunnel-resolution
Tree	tunnel-resolution
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allowed-tunnel-types *identityref*

Description List of allowed tunnel types

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv4-next-hops tunnel-resolution allowed-tunnel-types *identityref*

Tree allowed-tunnel-types

Options

- ip-in-ip

  Tunnels with IP-in-IP encapsulation
- sr-isis

  Segment routing using MPLS dataplane, programmed by IS-IS
- sr-ospfv2

  Segment routing using MPLS dataplane, programmed by OSPFv2
- sr-ospfv3

  Segment routing using MPLS dataplane, programmed by OSPFv3
- sr-policy-mpls-colored

  Tunnel setup using TE-POLICY.
- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.
- vxlan

  Tunnels based on VXLAN encapsulation

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mode *keyword*

Description Mode to control the order of tunnel resolution compared to route resolution

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv4-next-hops tunnel-resolution mode *keyword*

Tree mode

Default disabled

Options

- prefer
- require
- disabled

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-next-hops

Description Options related to the resolution of BGP next-hops that are IPv6 addresses

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv6-next-hops

Tree ipv6-next-hops

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tunnel-resolution

Description Options related to resolution using tunnels in the tunnel table

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv6-next-hops tunnel-resolution

Tree tunnel-resolution

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allowed-tunnel-types *identityref*

Description List of allowed tunnel types

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv6-next-hops tunnel-resolution allowed-tunnel-types *identityref*

Tree allowed-tunnel-types

Options

- ip-in-ip

  Tunnels with IP-in-IP encapsulation
- sr-isis

  Segment routing using MPLS dataplane, programmed by IS-IS
- sr-ospfv2

  Segment routing using MPLS dataplane, programmed by OSPFv2
- sr-ospfv3

  Segment routing using MPLS dataplane, programmed by OSPFv3
- sr-policy-mpls-colored

Tunnel setup using TE-POLICY.

- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.

- vxlan

  Tunnels based on VXLAN encapsulation

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mode *keyword*

Description Mode to control the order of tunnel resolution compared to route resolution

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* ipv6-unicast next-hop-resolution ipv6-next-hops tunnel-resolution mode *keyword*

Tree mode

Default disabled

Options

- prefer
- require
- disabled

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multipath

Description Options related to BGP multipath

Context network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* multipath

Tree multipath

Configurable True

Platforms Supported on all platforms

allow-multiple-as *boolean*

Description	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
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* multipath allow-multiple-as *boolean*
Tree	allow-multiple-as
Default	true
Configurable	True
Platforms	Supported on all platforms

max-paths-level-1 *number*

Description	The maximum number of BGP ECMP next-hops for BGP routes with an NLRI belonging to the address family of this configuration context
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* multipath max-paths-level-1 *number*
Tree	max-paths-level-1
Range	1 to 64
Default	1
Configurable	True
Platforms	Supported on all platforms

max-paths-level-2 *number*

Description	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
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* multipath max-paths-level-2 *number*
Tree	max-paths-level-2
Range	1 to 64
Default	1
Configurable	True
Platforms	Supported on all platforms

received-routes *number*

Description	The total number of routes belonging to this AFI/SAFI received from all peers of the BGP instance
Context	network-instance name *string* protocols bgp afi-safi afi-safi-name *identityref* received-routes *number*
Tree	received-routes
Default	0
Configurable	False
Platforms	Supported on all platforms

as-path-options

Description	Options for handling the AS_PATH in received BGP routes
Context	network-instance name *string* protocols bgp as-path-options
Tree	as-path-options
Configurable	True
Platforms	Supported on all platforms

allow-own-as *number*

Description	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
Context	network-instance name *string* protocols bgp as-path-options allow-own-as *number*
Tree	allow-own-as
Default	0
Configurable	True
Platforms	Supported on all platforms

remove-private-as

Description	Container with options for removing private AS numbers (2-byte and 4-byte) from the advertised AS path towards all peers
Context	network-instance name *string* protocols bgp as-path-options remove-private-as
Tree	remove-private-as

Configurable	True
Platforms	Supported on all platforms

ignore-peer-as *boolean*

Description	If set to true then do not delete or replace a private AS number that is the same as the peer AS number
Context	network-instance name *string* protocols bgp as-path-options remove-private-as ignore-peer-as *boolean*
Tree	ignore-peer-as
Default	false
Configurable	True
Platforms	Supported on all platforms

leading-only *boolean*

Description	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
Context	network-instance name *string* protocols bgp as-path-options remove-private-as leading-only *boolean*
Tree	leading-only
Default	false
Configurable	True
Platforms	Supported on all platforms

mode *keyword*

Description	The method by which private AS numbers are removed from the advertised AS_PATH attribute
Context	network-instance name *string* protocols bgp as-path-options remove-private-as mode *keyword*
Tree	mode
Default	disabled
Options	• disabled Do not strip or replace any private AS numbers • delete Delete private AS numbers, shortening the AS path

- replace

  Replace private AS numbers with the local AS number used towards the peer, maintaining the AS path length

Configurable True

Platforms Supported on all platforms

authentication

Description Container with authentication options that apply to all peers of the BGP instance

Context network-instance name *string* protocols bgp authentication

Tree authentication

Configurable True

Platforms Supported on all platforms

keychain *reference*

Description Reference to a keychain. The keychain type must be tcp-md5.

Context network-instance name *string* protocols bgp authentication keychain *reference*

Tree keychain

Reference system authentication keychain name *string*

Configurable True

Platforms Supported on all platforms

password *string*

Description Configures an MD5 authentication password for use with neighboring devices.

Context network-instance name *string* protocols bgp authentication password *string*

Tree password

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

autonomous-system *number*

Description	The global AS number of the BGP instance Values greater than 65535 must be entered in ASPLAIN format.
Context	network-instance name *string* protocols bgp autonomous-system *number*
Tree	autonomous-system
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

best-path-selection

Description	Container with options that control the BGP decision process (tie break between routes for the same NLRI).
Context	network-instance name *string* protocols bgp best-path-selection
Tree	best-path-selection
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

always-compare-med *boolean*

Description	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.
Context	network-instance name *string* protocols bgp best-path-selection always-compare-med *boolean*
Tree	always-compare-med
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

convergence

Description	Options for configuring address family independent BGP convergence parameters

Context	network-instance name *string* protocols bgp convergence
Tree	convergence
Configurable	True
Platforms	Supported on all platforms

min-wait-to-advertise *number*

Description	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 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. This timer and associated state machine are only restarted by one of the following triggers:
Context	network-instance name *string* protocols bgp convergence min-wait-to-advertise *number*
Tree	min-wait-to-advertise
Range	0 to 3600
Default	0
Configurable	True
Platforms	Supported on all platforms

dynamic-neighbors

Description	Options related to the acceptance and initiation of dynamic BGP sessions
Context	network-instance name *string* protocols bgp dynamic-neighbors
Tree	dynamic-neighbors
Configurable	True
Platforms	Supported on all platforms

accept

Description	Options related to the acceptance of dynamic BGP sessions from remote peers
Context	network-instance name *string* protocols bgp dynamic-neighbors accept
Tree	accept

Configurable	True
Platforms	Supported on all platforms

match prefix *(ipv4-prefix | ipv6-prefix)*

Description	List of prefix and group-id combinations from which incoming TCP connections to port 179 will be accepted 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.
Context	network-instance name *string* protocols bgp dynamic-neighbors accept match prefix *(ipv4-prefix | ipv6-prefix)*
Tree	match
Configurable	True
Platforms	Supported on all platforms

prefix *(ipv4-prefix | ipv6-prefix)*

Description	The IP prefix used to match an incoming dynamic BGP session to a group.
Context	network-instance name *string* protocols bgp dynamic-neighbors accept match prefix *(ipv4-prefix | ipv6-prefix)*
Configurable	True
Platforms	Supported on all platforms

allowed-peer-as *string*

Description	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
Context	network-instance name *string* protocols bgp dynamic-neighbors accept match prefix *(ipv4-prefix | ipv6-prefix)* allowed-peer-as *string*
Tree	allowed-peer-as
Configurable	True
Platforms	Supported on all platforms

Max. Elements	32

peer-group *reference*

Description	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.
Context	network-instance name *string* protocols bgp dynamic-neighbors accept match prefix *(ipv4-prefix | ipv6-prefix)* peer-group *reference*
Tree	peer-group
Reference	network-instance name *string* protocols bgp group group-name *string*
Configurable	True
Platforms	Supported on all platforms

max-sessions *number*

Description	The maximum number of incoming BGP sessions that will be accepted by the router A value of 0 means no limit.
Context	network-instance name *string* protocols bgp dynamic-neighbors accept max-sessions *number*
Tree	max-sessions
Default	0
Configurable	True
Platforms	Supported on all platforms

interface interface-name *string*

Description	List of interfaces on which dynamic sessions based on IPv6 link-local address discovery are accepted and initiated.
Context	network-instance name *string* protocols bgp dynamic-neighbors interface interface-name *string*
Tree	interface
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface-name *string*

Description	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.
Context	network-instance name *string* protocols bgp dynamic-neighbors interface interface-name *string*
String Length	5 to 25
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allowed-peer-as *string*

Description	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.
Context	network-instance name *string* protocols bgp dynamic-neighbors interface interface-name *string* allowed-peer-as *string*
Tree	allowed-peer-as
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

Max. Elements	32

max-sessions *number*

Description	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.
Context	network-instance name *string* protocols bgp dynamic-neighbors interface interface-name *string* max-sessions *number*
Tree	max-sessions
Default	1
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer-group *reference*

Description	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.
Context	network-instance name *string* protocols bgp dynamic-neighbors interface interface-name *string* peer-group *reference*
Tree	peer-group
Reference	network-instance name *string* protocols bgp group group-name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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
Context	network-instance name *string* protocols bgp export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

failure-detection

Description	Options related to methods of detecting BGP session failure
Context	network-instance name *string* protocols bgp failure-detection
Tree	failure-detection
Configurable	True

Platforms	Supported on all platforms

enable-bfd *boolean*

Description	The true setting enables Bi-directional Forwarding Detection on BGP sessions belonging to the peer group
Context	network-instance name *string* protocols bgp failure-detection enable-bfd *boolean*
Tree	enable-bfd
Default	false
Configurable	True
Platforms	Supported on all platforms

fast-failover *boolean*

Description	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
Context	network-instance name *string* protocols bgp failure-detection fast-failover *boolean*
Tree	fast-failover
Default	true
Configurable	True
Platforms	Supported on all platforms

graceful-restart

Description	Options for controlling the behavior of the router as a graceful restart helper
Context	network-instance name *string* protocols bgp graceful-restart
Tree	graceful-restart
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable graceful restart helper for all address families

Context	network-instance name *string* protocols bgp graceful-restart admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

requested-restart-time *number*

Description	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.
Context	network-instance name *string* protocols bgp graceful-restart requested-restart-time *number*
Tree	requested-restart-time
Range	1 to 3600
Default	300
Units	seconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

afi-safi afi-safi-name *identityref*

Description List of address families supported by the BGP peer group

Context network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref*

Tree afi-safi

Configurable 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 group group-name *string* 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)
- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast

  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)
- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)
- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)
- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable True

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 group group-name *string* afi-safi afi-safi-name *identityref* add-paths

Tree	add-paths
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

receive *boolean*

Description	Enable capability negotiation to receive multiple path advertisements from a single peer for a single NLRI belonging to the AFI/SAFI
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* add-paths receive *boolean*
Tree	receive
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send *boolean*

Description	Enable capability negotiation to send multiple path advertisements to a single peer for a single NLRI belonging to the AFI/SAFI
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* add-paths send *boolean*
Tree	send
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send-max *number*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* add-paths send-max *number*
Tree	send-max
Range	1 to 16

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send-multipath

Description	Send the used paths for a single NLRI, including all paths that are multipaths.
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* add-paths send-multipath
Tree	send-multipath
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	This leaf indicates whether the AFI-SAFI is enabled for the peer group
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* admin-state *keyword*
Tree	admin-state
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

evpn

Description	Options related to the EVPN address family
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* evpn
Tree	evpn
Configurable	True
Platforms	Supported on all platforms

advertise-ipv6-next-hops *boolean*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* evpn advertise-ipv6-next-hops *boolean*
Tree	advertise-ipv6-next-hops
Configurable	True
Platforms	Supported on all platforms

prefix-limit

Description	Options for configuring the maximum number of EVPN routes allowed to be received from each peer in the peer-group
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* evpn prefix-limit
Tree	prefix-limit
Configurable	True
Platforms	Supported on all platforms

max-received-routes *number*

Description	Maximum number of EVPN 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* evpn prefix-limit max-received-routes *number*
Tree	max-received-routes
Range	1 to 4294967295
Default	4294967295
Configurable	True
Platforms	Supported on all platforms

warning-threshold-pct *number*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* evpn prefix-limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Range	0 to 100
Default	90
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to advertised BGP routes
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* import-policy *reference*
Tree	import-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-unicast

Description Options related to the IPv4-unicast address family

Context network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv4-unicast

Tree ipv4-unicast

Configurable True

Platforms Supported on all platforms

advertise-ipv6-next-hops *boolean*

Description Enables advertisement of IPv4 routes with IPv6 next-hops

Context network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv4-unicast advertise-ipv6-next-hops *boolean*

Tree advertise-ipv6-next-hops

Configurable True

Platforms Supported on all platforms

link-bandwidth

Description Enter the link-bandwidth context

Context network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv4-unicast link-bandwidth

Tree link-bandwidth

Configurable True

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

add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Description Determines the weight that is internally added to the received PE-CE BGP routes

The configured weight is added to all received BGP PE-CE routes for the purpose of EVPN unequal ECMP. This weight is internal and not added into any link-bandwidth extended community when readvertising the received routes to other ipv4 or ipv6 neighbors.

Context network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv4-unicast link-bandwidth add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Tree	add-next-hop-count-to-received-bgp-routes
Range	1 to 128
Options	• disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

warning-threshold-pct *number*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv4-unicast prefix-limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Range	0 to 100
Default	90
Configurable	True
Platforms	Supported on all platforms

receive-ipv6-next-hops *boolean*

Description	Enables the advertisement of the RFC 8950 capability to receive IPv4 routes with IPv6 next-hops When set to true, BGP advertises an extended NH encoding (RFC 8950) capability to its peers. This capability indicates that local router is prepared to accept BGP routes for the AFI/SAFI with IPv6 next-hops from peers in the scope of the command. When set to false, BGP handles received AFI/SAFI routes with IPv6 next-hops as an error and applies treat-as-withdraw.
Context	network-instance name *string* protocols bgp group group-name *string* 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 group group-name *string* afi-safi afi-safi-name *identityref* ipv6-unicast
Tree	ipv6-unicast

Configurable	True
Platforms	Supported on all platforms

link-bandwidth

Description	Enter the link-bandwidth context
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv6-unicast link-bandwidth
Tree	link-bandwidth
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Description	Determines the weight that is internally added to the received PE-CE BGP routes The configured weight is added to all received BGP PE-CE routes for the purpose of EVPN unequal ECMP. This weight is internal and not added into any link-bandwidth extended community when readvertising the received routes to other ipv4 or ipv6 neighbors.
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv6-unicast link-bandwidth add-next-hop-count-to-received-bgp-routes *(number | keyword)*
Tree	add-next-hop-count-to-received-bgp-routes
Range	1 to 128
Options	• disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

prefix-limit

Description	Options for configuring the maximum number of IPv6 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* ipv6-unicast prefix-limit
Tree	prefix-limit
Configurable	True

Platforms	Supported on all platforms

max-received-routes *number*

Description	Maximum number of IPv6 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* ipv6-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 IPv6 routes exceeds the configured limit.
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv6-unicast prefix-limit prevent-teardown *boolean*
Tree	prevent-teardown
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

warning-threshold-pct *number*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* afi-safi afi-safi-name *identityref* ipv6-unicast prefix-limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Range	0 to 100
Default	90
Configurable	True

Platforms	Supported on all platforms

as-path-options

Description	Options for handling the AS_PATH in received BGP routes
Context	network-instance name *string* protocols bgp group group-name *string* as-path-options
Tree	as-path-options
Configurable	True
Platforms	Supported on all platforms

allow-own-as *number*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* as-path-options allow-own-as *number*
Tree	allow-own-as
Configurable	True
Platforms	Supported on all platforms

remove-private-as

Description	Container with options for removing private AS numbers (2-byte and 4-byte) from the advertised AS path towards all peers
Context	network-instance name *string* protocols bgp group group-name *string* as-path-options remove-private-as
Tree	remove-private-as
Configurable	True
Platforms	Supported on all platforms

ignore-peer-as *boolean*

Description	If set to true then do not delete or replace a private AS number that is the same as the peer AS number

Context	network-instance name *string* protocols bgp group group-name *string* as-path-options remove-private-as ignore-peer-as *boolean*
Tree	ignore-peer-as
Default	false
Configurable	True
Platforms	Supported on all platforms

leading-only *boolean*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* as-path-options remove-private-as leading-only *boolean*
Tree	leading-only
Default	false
Configurable	True
Platforms	Supported on all platforms

mode *keyword*

Description	The method by which private AS numbers are removed from the advertised AS_PATH attribute
Context	network-instance name *string* protocols bgp group group-name *string* as-path-options remove-private-as mode *keyword*
Tree	mode
Options	• disabled Do not strip or replace any private AS numbers • delete Delete private AS numbers, shortening the AS path • replace Replace private AS numbers with the local AS number used towards the peer, maintaining the AS path length
Configurable	True
Platforms	Supported on all platforms

replace-peer-as *boolean*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* as-path-options replace-peer-as *boolean*
Tree	replace-peer-as
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Container with authentication options that apply to all peers in this peer-group
Context	network-instance name *string* protocols bgp group group-name *string* authentication
Tree	authentication
Configurable	True
Platforms	Supported on all platforms

keychain *reference*

Description	Reference to a keychain. The keychain type must be tcp-md5.
Context	network-instance name *string* protocols bgp group group-name *string* authentication keychain *reference*
Tree	keychain
Reference	system authentication keychain name *string*
Configurable	True
Platforms	Supported on all platforms

password *string*

Description	Configures an MD5 authentication password for use with neighboring devices.
Context	network-instance name *string* protocols bgp group group-name *string* authentication password *string*
Tree	password
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

description *string*

Description	A user provided description string for the peer group
Context	network-instance name *string* protocols bgp group group-name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to advertised BGP routes
Context	network-instance name *string* protocols bgp group group-name *string* export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

failure-detection

Description	Options related to methods of detecting BGP session failure
Context	network-instance name *string* protocols bgp group group-name *string* failure-detection
Tree	failure-detection
Configurable	True
Platforms	Supported on all platforms

enable-bfd *boolean*

Description	The true setting enables Bi-directional Forwarding Detection on BGP sessions belonging to the peer group

Context	network-instance name *string* protocols bgp group group-name *string* failure-detection enable-bfd *boolean*
Tree	enable-bfd
Configurable	True
Platforms	Supported on all platforms

fast-failover *boolean*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* failure-detection fast-failover *boolean*
Tree	fast-failover
Configurable	True
Platforms	Supported on all platforms

graceful-restart

Description	Options related to router behavior as a graceful restart helper
Context	network-instance name *string* protocols bgp group group-name *string* graceful-restart
Tree	graceful-restart
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable graceful restart helper for all address families
Context	network-instance name *string* protocols bgp group group-name *string* graceful-restart admin-state *keyword*
Tree	admin-state
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

requested-restart-time *number*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* graceful-restart requested-restart-time *number*
Tree	requested-restart-time
Range	1 to 3600
Default	300
Units	seconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

stale-routes-time *number*

Description	The maximum number of seconds that routes received from a neighbor that is being helped 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 group group-name *string* graceful-restart stale-routes-time *number*
Tree	stale-routes-time
Range	1 to 3600
Units	seconds
Configurable	True
Platforms	Supported on all platforms

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp group group-name *string* import-policy *reference*
Tree	import-policy

Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

local-as

Description	Options related to the local autonomous-system number advertised by this router to its peers
Context	network-instance name *string* protocols bgp group group-name *string* local-as
Tree	local-as
Configurable	True
Platforms	Supported on all platforms

as-number *number*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* local-as as-number *number*
Tree	as-number
Range	1 to 4294967295
Configurable	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*

Description	State field to display the maintenance group to which this group belongs to.
Context	network-instance name *string* protocols bgp group group-name *string* maintenance-group *string*
Tree	maintenance-group
Configurable	False
Platforms	Supported on all platforms

multihop

Description	Configuration parameters specifying the multihop behaviour for IBGP and EBGP peers in the peer group.

Context	network-instance name *string* protocols bgp group group-name *string* multihop
Tree	multihop
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	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. This can be overriden on a per neighbor basis. It is inherited by neighbors in the peer-group only if maximum-hops is also specified. By default this is disabled.
Context	network-instance name *string* protocols bgp group group-name *string* multihop admin-state *keyword*
Tree	admin-state
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

maximum-hops *number*

Description	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. This can be overriden on a per neighbor basis. It is inherited by neighbors in the peer-group only if admin-state is also specified.
Context	network-instance name *string* protocols bgp group group-name *string* multihop maximum-hops *number*
Tree	maximum-hops
Range	1 to 255
Configurable	True
Platforms	Supported on all platforms

next-hop-self *boolean*

Description When set to true, the next-hop in all IPv4-unicast, IPv6-unicast, EVPN, VPN-IPv4 and VPN-IPv6 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).

When set to false, normal BGP rules from RFC 4271 apply.

Context network-instance name *string* protocols bgp group group-name *string* next-hop-self *boolean*

Tree next-hop-self

Default false

Configurable True

Platforms Supported on all platforms

peer-as *number*

Description The autonomous system number expected from each peer in the group

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.

Context network-instance name *string* protocols bgp group group-name *string* peer-as *number*

Tree peer-as

Range 1 to 4294967295

Configurable True

Platforms Supported on all platforms

route-reflector

Description Container with route reflection configuration options.

Context network-instance name *string* protocols bgp group group-name *string* route-reflector

Tree route-reflector

Configurable True

Platforms Supported on all platforms

client *boolean*

Description	When this is set to true all configured and dynamic BGP sessions that belong to the peer-group are considered RR clients.
Context	network-instance name *string* protocols bgp group group-name *string* route-reflector client *boolean*
Tree	client
Configurable	True
Platforms	Supported on all platforms

cluster-id *(number | dotted-quad)*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* route-reflector cluster-id *(number | dotted-quad)*
Tree	cluster-id
Configurable	True
Platforms	Supported on all platforms

send-default-route

Description	Options for controlling the generation of default routes towards group peers
Context	network-instance name *string* protocols bgp group group-name *string* send-default-route
Tree	send-default-route
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* send-default-route export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*

Configurable	True
Platforms	Supported on all platforms

ipv4-unicast *boolean*

Description	Enables the sending of a synthetically generated default IPv4 route [0/0] to each peer in the group
Context	network-instance name *string* protocols bgp group group-name *string* send-default-route ipv4-unicast *boolean*
Tree	ipv4-unicast
Default	false
Configurable	True
Platforms	Supported on all platforms

ipv6-unicast *boolean*

Description	Enables the sending of a synthetically generated default IPv6 route [::/0] to each peer in the group
Context	network-instance name *string* protocols bgp group group-name *string* send-default-route ipv6-unicast *boolean*
Tree	ipv6-unicast
Default	false
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Container for BGP statistics.
Context	network-instance name *string* protocols bgp group group-name *string* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

disabled-peers *number*

Description	The number of configured BGP peers associated with the peer-group that are administratively disabled

Context	network-instance name *string* protocols bgp group group-name *string* statistics disabled-peers *number*
Tree	disabled-peers
Configurable	False
Platforms	Supported on all platforms

dynamic-peers *number*

Description	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
Context	network-instance name *string* protocols bgp group group-name *string* statistics dynamic-peers *number*
Tree	dynamic-peers
Configurable	False
Platforms	Supported on all platforms

path-memory *number*

Description	The total number of bytes required to store the path attribute objects used by received BGP routes associated with the peer-group
Context	network-instance name *string* protocols bgp group group-name *string* statistics path-memory *number*
Tree	path-memory
Default	0
Configurable	False
Platforms	Supported on all platforms

total-active-routes *number*

Description	The total number of received BGP routes that are active (installed for forwarding) and associated with the peer-group, summed across all address families
Context	network-instance name *string* protocols bgp group group-name *string* statistics total-active-routes *number*
Tree	total-active-routes
Default	0
Configurable	False

Platforms	Supported on all platforms

total-paths *number*

Description	The total number of path attribute objects used by received BGP routes associated with the peer-group
Context	network-instance name *string* protocols bgp group group-name *string* statistics total-paths *number*
Tree	total-paths
Default	0
Configurable	False
Platforms	Supported on all platforms

total-peers *number*

Description	The total number of configured BGP peers associated with the peer-group
Context	network-instance name *string* protocols bgp group group-name *string* 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 group group-name *string* 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 associated with the peer-group, summed across all address families
Context	network-instance name *string* protocols bgp group group-name *string* 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 associated with the peer-group that are currently in the established state
Context	network-instance name *string* protocols bgp group group-name *string* statistics up-peers *number*
Tree	up-peers
Configurable	False
Platforms	Supported on all platforms

timers

Description	Enter the timers context
Context	network-instance name *string* protocols bgp group group-name *string* timers
Tree	timers
Configurable	True
Platforms	Supported on all platforms

connect-retry *number*

Description	The time interval in seconds between successive attempts to establish a session with a peer
Context	network-instance name *string* protocols bgp group group-name *string* timers connect-retry *number*
Tree	connect-retry
Range	1 to 65535
Default	120
Units	seconds
Configurable	True
Platforms	Supported on all platforms

hold-time *number*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* timers hold-time *number*
Tree	hold-time
Range	0 | 3 to 65535
Default	90
Units	seconds
Configurable	True
Platforms	Supported on all platforms

keepalive-interval *number*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* timers keepalive-interval *number*
Tree	keepalive-interval
Range	0 to 21845
Units	seconds
Configurable	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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options

Description	Debug traceoptions for BGP
Context	network-instance name *string* protocols bgp group group-name *string* 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 group group-name *string* 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 group group-name *string* 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 group group-name *string* 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.
Configurable	True
Platforms	Supported on all platforms

transport

Description	Enter the transport context
Context	network-instance name *string* protocols bgp group group-name *string* transport
Tree	transport
Configurable	True
Platforms	Supported on all platforms

local-address *(ipv4-address | ipv6-address | string)*

Description	The local TCP endpoint of used for all BGP sessions in the group 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.
Context	network-instance name *string* protocols bgp group group-name *string* transport local-address *(ipv4-address | ipv6-address | string)*
Tree	local-address
Configurable	True
Platforms	Supported on all platforms

mtu-discovery *boolean*

Description	Turns path mtu discovery for BGP TCP sessions on (true) or off (false)

Context	network-instance name *string* protocols bgp group group-name *string* transport mtu-discovery *boolean*
Tree	mtu-discovery
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

passive-mode *boolean*

Description	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.
Context	network-instance name *string* protocols bgp group group-name *string* transport passive-mode *boolean*
Tree	passive-mode
Default	false
Configurable	True
Platforms	Supported on all platforms

tcp-mss *number*

Description	The maximum segment size of BGP TCP packets The actual value used in the transmit direction towards a particular peer should be checked at the neighbor level.
Context	network-instance name *string* protocols bgp group group-name *string* transport tcp-mss *number*
Tree	tcp-mss
Range	536 to 9446
Units	bytes
Configurable	True
Platforms	Supported on all platforms

under-maintenance *boolean*

Description	Indicates if this BGP group is in maintenance mode

Context	network-instance name *string* protocols bgp group group-name *string* under-maintenance *boolean*
Tree	under-maintenance
Configurable	False
Platforms	Supported on all platforms

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp import-policy *reference*
Tree	import-policy
Reference	routing-policy policy name *string*
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 It is also used to encode the local preference attribute for locally generated BGP routes.
Context	network-instance name *string* protocols bgp local-preference *number*
Tree	local-preference
Default	100
Configurable	True
Platforms	Supported on all platforms

maintenance-group *string*

Description	State field to display the maintenance group to which this bgp instance belongs to.
Context	network-instance name *string* protocols bgp maintenance-group *string*
Tree	maintenance-group
Configurable	False
Platforms	Supported on all platforms

max-ecmp-hash-buckets-per-next-hop-group *number*

Description	Specifies the maximum number of ECMP hash buckets per next-hop-group Weighted ECMP weights are normalized based on this number of hash buckets.
Context	network-instance name *string* protocols bgp max-ecmp-hash-buckets-per-next-hop-group *number*
Tree	max-ecmp-hash-buckets-per-next-hop-group
Range	1 to 128
Default	128
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	Create a configured BGP session
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*
Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable the peer Disable will tear down the BGP session (return it to IDLE state).

Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

advertised-capabilities *keyword*

Description	List of BGP capabilities advertised by the local routing device to the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* advertised-capabilities *keyword*
Tree	advertised-capabilities
Options	• MP_BGP • ROUTE_REFRESH • EXT_NH_ENCODING • GRACEFUL_RESTART • 4-OCTET_ASN • ORF_SEND_EXCOMM • ORF_RECEIVE_EXCOMM
Configurable	False
Platforms	Supported on all platforms

afi-safi afi-safi-name *identityref*

Description	List of address families supported by the BGP neighbor
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref*
Tree	afi-safi
Configurable	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 neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* 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)
- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast

  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)
- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)
- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)
- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable True

Platforms Supported on all platforms

active-routes *number*

Description The number of routes belonging to this AFI/SAFI received from the peer that are installed and used, being best routes

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* active-routes *number*

Tree active-routes

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 neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* add-paths
Tree	add-paths
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

receive *boolean*

Description	Enable capability negotiation to receive multiple path advertisements from a single peer for a single NLRI belonging to the AFI/SAFI
Context	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 receive *boolean*
Tree	receive
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send *boolean*

Description	Enable capability negotiation to send multiple path advertisements to a single peer for a single NLRI belonging to the AFI/SAFI
Context	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 *boolean*
Tree	send
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send-max *number*

Description	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.

Context 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-max *number*

Tree send-max

Range 1 to 16

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

send-multipath

Description Send the used paths for a single NLRI, including all paths that are multipaths.

Context 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

Tree send-multipath

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description This leaf indicates whether support for the AFI-SAFI is enabled/advertised to the neighbor

Context 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*

Tree admin-state

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

evpn

Description Options related to the EVPN 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* evpn
Tree	evpn
Configurable	True
Platforms	Supported on all platforms

advertise-ipv6-next-hops *boolean*

Description	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 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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* evpn advertise-ipv6-next-hops *boolean*
Tree	advertise-ipv6-next-hops
Configurable	True
Platforms	Supported on all platforms

prefix-limit

Description	Options for configuring the maximum number of EVPN routes allowed to be received from the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* evpn prefix-limit
Tree	prefix-limit
Configurable	True
Platforms	Supported on all platforms

max-received-routes *number*

Description	Maximum number of EVPN 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* evpn prefix-limit max-received-routes *number*
Tree	max-received-routes

Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

warning-threshold-pct *number*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* evpn prefix-limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Range	0 to 100
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to advertised BGP routes
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* import-policy *reference*
Tree	import-policy
Reference	routing-policy policy name *string*
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-unicast

Description	Options related to the IPv4-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* ipv4-unicast
Tree	ipv4-unicast
Configurable	True
Platforms	Supported on all platforms

advertise-ipv6-next-hops *boolean*

Description	Enables advertisement of IPv4 routes with IPv6 next-hops
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 advertise-ipv6-next-hops *boolean*
Tree	advertise-ipv6-next-hops
Configurable	True
Platforms	Supported on all platforms

link-bandwidth

Description	Enter the link-bandwidth 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* ipv4-unicast link-bandwidth
Tree	link-bandwidth
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Description	Determines the weight that is internally added to the received PE-CE BGP routes

The configured weight is added to all received BGP PE-CE routes for the purpose of EVPN unequal ECMP. This weight is internal and not added into any link-bandwidth extended community when readvertising the received routes to other ipv4 or ipv6 neighbors.

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 link-bandwidth add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Tree add-next-hop-count-to-received-bgp-routes

Range 1 to 128

Options
- disable

Configurable True

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

prefix-limit

Description Options for configuring the maximum number of IPv4 routes allowed to be received from the peer

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

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 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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 8950 capability to receive IPv4 routes with IPv6 next-hops When set to true, BGP advertises an extended NH encoding (RFC 8950) capability to its peers. This capability indicates that local router is prepared to accept BGP routes for the AFI/SAFI with IPv6 next-hops from peers in the scope of the command. When set to false, BGP handles received AFI/SAFI 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
Configurable	True
Platforms	Supported on all platforms

link-bandwidth

Description	Enter the link-bandwidth 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* ipv6-unicast link-bandwidth
Tree	link-bandwidth
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Description Determines the weight that is internally added to the received PE-CE BGP routes

The configured weight is added to all received BGP PE-CE routes for the purpose of EVPN unequal ECMP. This weight is internal and not added into any link-bandwidth extended community when readvertising the received routes to other ipv4 or ipv6 neighbors.

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 link-bandwidth add-next-hop-count-to-received-bgp-routes *(number | keyword)*

Tree add-next-hop-count-to-received-bgp-routes

Range 1 to 128

Options
- disable

Configurable True

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

prefix-limit

Description Options for configuring the maximum number of IPv6 routes allowed to be received from the peer

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

Tree prefix-limit

Configurable True

Platforms Supported on all platforms

max-received-routes *number*

Description Maximum number of IPv6 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* ipv6-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 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)
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 prefix-limit-exceeded *boolean*
Tree	prefix-limit-exceeded
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 address family is up • down Negotiated operational state of the address family is down
Configurable	False
Platforms	Supported on all platforms

received-routes *number*

Description	The number of routes belonging to this AFI/SAFI received from the peer, including routes rejected by import policy
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* received-routes *number*
Tree	received-routes
Configurable	False
Platforms	Supported on all platforms

rejected-routes *number*

Description	The number of routes belonging to this AFI/SAFI received from the peer that were rejected by import policy
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* rejected-routes *number*
Tree	rejected-routes
Configurable	False
Platforms	Supported on all platforms

sent-routes *number*

Description	The number of routes belonging to this AFI/SAFI advertised as reachable to the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* afi-safi afi-safi-name *identityref* sent-routes *number*
Tree	sent-routes
Configurable	False
Platforms	Supported on all platforms

as-path-options

Description	Options for handling the AS_PATH in received BGP routes
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options
Tree	as-path-options
Configurable	True
Platforms	Supported on all platforms

allow-own-as *number*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options allow-own-as *number*
Tree	allow-own-as
Configurable	True
Platforms	Supported on all platforms

remove-private-as

Description	Container with options for removing private AS numbers (2-byte and 4-byte) from the advertised AS path towards all peers
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options remove-private-as

Tree	remove-private-as
Configurable	True
Platforms	Supported on all platforms

ignore-peer-as *boolean*

Description	If set to true then do not delete or replace a private AS number that is the same as the peer AS number
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options remove-private-as ignore-peer-as *boolean*
Tree	ignore-peer-as
Default	false
Configurable	True
Platforms	Supported on all platforms

leading-only *boolean*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options remove-private-as leading-only *boolean*
Tree	leading-only
Default	false
Configurable	True
Platforms	Supported on all platforms

mode *keyword*

Description	The method by which private AS numbers are removed from the advertised AS_PATH attribute
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options remove-private-as mode *keyword*
Tree	mode
Options	• disabled Do not strip or replace any private AS numbers

- delete

  Delete private AS numbers, shortening the AS path

- replace

  Replace private AS numbers with the local AS number used towards the peer, maintaining the AS path length

Configurable True

Platforms Supported on all platforms

replace-peer-as *boolean*

Description 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

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* as-path-options replace-peer-as *boolean*

Tree replace-peer-as

Configurable True

Platforms Supported on all platforms

authentication

Description Container with authentication options that apply to this specific peer

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* authentication

Tree authentication

Configurable True

Platforms Supported on all platforms

keychain *reference*

Description Reference to a keychain. The keychain type must be tcp-md5.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* authentication keychain *reference*

Tree keychain

Reference system authentication keychain name *string*

Configurable True

Platforms	Supported on all platforms

password *string*

Description	Configures an MD5 authentication password for use with neighboring devices.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* authentication password *string*
Tree	password
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

transmit-active *boolean*

Description	Reads true when the TCP segments being sent to the peer have authentication data.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* authentication transmit-active *boolean*
Tree	transmit-active
Configurable	False
Platforms	Supported on all platforms

description *string*

Description	A user provided description string for the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

discovered-by-lldp *boolean*

Description	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)

Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* discovered-by-lldp *boolean*
Tree	discovered-by-lldp
Configurable	False
Platforms	Supported on all platforms

dynamic-neighbor *boolean*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* dynamic-neighbor *boolean*
Tree	dynamic-neighbor
Configurable	False
Platforms	Supported on all platforms

established-transitions *number*

Description	The total number of times the BGP FSM transitioned into the established state for this peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* established-transitions *number*
Tree	established-transitions
Default	0
Configurable	False
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to advertised BGP routes
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

failure-detection

Description	Options related to methods of detecting BGP session failure
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* failure-detection
Tree	failure-detection
Configurable	True
Platforms	Supported on all platforms

enable-bfd *boolean*

Description	The true setting enables Bi-directional Forwarding Detection on BGP sessions belonging to the peer group
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* failure-detection enable-bfd *boolean*
Tree	enable-bfd
Configurable	True
Platforms	Supported on all platforms

fast-failover *boolean*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* failure-detection fast-failover *boolean*
Tree	fast-failover
Configurable	True
Platforms	Supported on all platforms

graceful-restart

Description	Options related to router behavior as a graceful restart helper
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart
Tree	graceful-restart

Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable graceful restart helper for all address families
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart admin-state *keyword*
Tree	admin-state
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

helper-active *boolean*

Description	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
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart helper-active *boolean*
Tree	helper-active
Configurable	False
Platforms	Supported on all platforms

last-restart-time *string*

Description	The last time the peer restarted
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart last-restart-time *string*
Tree	last-restart-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

neighbor-capability

Description Container for information about the last GR capability received from the neighbor

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart neighbor-capability

Tree neighbor-capability

Configurable False

Platforms Supported on all platforms

afi-safi name *identityref*

Description List of AFI/SAFI TLVs that were contained in the neighbor's last GR capability

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart neighbor-capability afi-safi name *identityref*

Tree afi-safi

Configurable False

Platforms Supported on all platforms

name *identityref*

Description Enter the name context

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart neighbor-capability 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)
- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast

  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)
- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)

- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)
- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable False

Platforms Supported on all platforms

forwarding-preserved *boolean*

Description The F-bit setting in the AFI/SAFI TLV

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart neighbor-capability afi-safi name *identityref* forwarding-preserved *boolean*

Tree forwarding-preserved

Configurable False

Platforms Supported on all platforms

restart-time *number*

Description The value of the Restart Time in the neighbor's last GR capability

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart neighbor-capability restart-time *number*

Tree restart-time

Configurable False

Platforms Supported on all platforms

number-of-restarts *number*

Description The number of times the peer has restarted

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart number-of-restarts *number*

Tree number-of-restarts

Configurable False

Platforms Supported on all platforms

requested-restart-time *number*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart requested-restart-time *number*
Tree	requested-restart-time
Range	1 to 3600
Default	300
Units	seconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* graceful-restart stale-routes-time *number*
Tree	stale-routes-time
Range	1 to 3600
Units	seconds
Configurable	True
Platforms	Supported on all platforms

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* import-policy *reference*
Tree	import-policy

Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

last-established *string*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* last-established *string*
Tree	last-established
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-event *keyword*

Description	Enter the last-event context
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* last-event *keyword*
Tree	last-event
Options	• none • start • stop • open • close • openFail • error • connectRetry • holdTime • keepAlive • recvOpen • recvKeepAlive • recvUpdate • recvNotify • startPassive

- parseError
- outOfMemory
- rtmLimitExceed
- outOfProtNHIndex
- outOfNHIndex
- labelAllocFailed
- lspIdAllocFailed
- collisionResolution
- adminShutdown
- adminReset
- configChange
- maxPrefixExceed
- maxPfxExcdLog
- trackingPolMismatch
- receivedMalformedAttr
- adminResetHard
- peerDamping

Configurable False

Platforms Supported on all platforms

last-state *keyword*

Description Previous state of the session

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* last-state *keyword*

Tree last-state

Options

- idle
- connect
- active
- opensent
- openconfirm
- established

Configurable False

Platforms Supported on all platforms

local-as

Description	Options related to the local autonomous-system number advertised by this router to the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* local-as
Tree	local-as
Configurable	True
Platforms	Supported on all platforms

as-number *number*

Description	The local autonomous system number used to override the global ASN on this session Sets the ASN value that this router sends in its OPEN message towards its peer.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* local-as as-number *number*
Tree	as-number
Range	1 to 4294967295
Configurable	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 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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* 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 the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* 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 the peer, if it is EBGP It is also used to encode the local preference attribute for locally generated BGP routes.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* local-preference *number*
Tree	local-preference
Configurable	True
Platforms	Supported on all platforms

maintenance-group *string*

Description	State field to display the maintenance group to which this neighbor belongs to.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* maintenance-group *string*
Tree	maintenance-group
Configurable	False
Platforms	Supported on all platforms

multihop

Description	Configuration parameters specifying the multihop behaviour for an EBGP peer. This is not applicable to an IBGP peer.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* multihop

Tree multihop

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description 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.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* multihop admin-state *keyword*

Tree admin-state

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

maximum-hops *number*

Description 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.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* multihop maximum-hops *number*

Tree maximum-hops

Range 1 to 255

Configurable True

Platforms Supported on all platforms

next-hop-self *boolean*

Description 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.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* next-hop-self *boolean*

Tree next-hop-self

Configurable True

Platforms Supported on all platforms

peer-as *number*

Description 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.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* peer-as *number*

Tree peer-as

Range 1 to 4294967295

Configurable True

Platforms Supported on all platforms

peer-group *reference*

Description A reference to the peer-group template to use for this BGP session

This is not immutable.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* peer-group *reference*

Tree peer-group

Reference network-instance name *string* protocols bgp group group-name *string*

Configurable True

Platforms Supported on all platforms

peer-router-id *string*

Description The BGP identifier advertised by the peer in its OPEN message

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* peer-router-id *string*

Tree peer-router-id

Configurable False

Platforms Supported on all platforms

peer-type *keyword*

Description 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.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* peer-type *keyword*

Tree peer-type

Options

- ibgp

  Indicates that the peer is IBGP (local-as == peer-as).

- ebgp

  Indicates that the peer is EBGP (local-as != peer-as).

Configurable False

Platforms Supported on all platforms

received-afi-safi *identityref*

Description 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

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-afi-safi *identityref*

Tree received-afi-safi

Options

- ipv4-unicast

  Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)

- ipv6-unicast

  Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)

- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)

- l3vpn-ipv6-unicast

  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)

- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)

- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)

- evpn

EVPN routes (AFI = 25, SAFI = 70)

Configurable False

Platforms Supported on all platforms

received-capabilities *keyword*

Description List of BGP capabilities received by the local routing device from the peer

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-capabilities *keyword*

Tree received-capabilities

Options

- MP_BGP
- ROUTE_REFRESH
- EXT_NH_ENCODING
- GRACEFUL_RESTART
- 4-OCTET_ASN
- ORF_SEND_EXCOMM
- ORF_RECEIVE_EXCOMM
- ADD_PATH
- LONG_LIVED_GR

Configurable False

Platforms Supported on all platforms

received-end-of-rib *identityref*

Description List of address families for which the peer has signaled the End of RIB marker

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-end-of-rib *identityref*

Tree received-end-of-rib

Options

- ipv4-unicast

  Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1)
- ipv6-unicast

  Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)
- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast

VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)

- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)

- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)

- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable False

Platforms Supported on all platforms

received-messages

Description Container for state information about BGP messages received from the peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages

Tree received-messages

Configurable False

Platforms Supported on all platforms

last-notification-error-code *keyword*

Description The error code in the last NOTIFICATION received from this peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages last-notification-error-code *keyword*

Tree last-notification-error-code

Options

- Message Header Error
- Open Message Error
- Update Message Error
- Hold Timer Error
- Finite State Machine Error
- Cease

Configurable False

Platforms Supported on all platforms

last-notification-error-subcode *keyword*

Description The error subcode in the last NOTIFICATION received from the peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages last-notification-error-subcode *keyword*

Tree last-notification-error-subcode

Options

- Connection Not Synchronized
- Bad Message Length
- Bad Message Type
- Unsupported Version Number
- Bad Peer As
- Bad BGP Identifier
- Unsupported Optional Parameter
- Unacceptable Hold Time
- UPDATE Message Error subcodes
- Malformed Attribute List
- Unrecognized Well-known Attribute
- Missing Well-known Attribute
- Attribute Flags Error
- Attribute Length Error
- Invalid ORIGIN Attribute
- Invalid NEXT_HOP Attribute
- Optional Attribute Error
- Invalid Network Field
- Malformed AS_PATH
- Maximum Number of Prefixes Reached
- Administrative Shutdown
- Peer De-configured
- Administrative Reset
- Connection Rejected
- Other Configuration Change
- Connection Collision Resolution
- Out of Resources
- Unspecific
- Hard Reset
- Unsupported Capability

Configurable	False
Platforms	Supported on all platforms

last-notification-time *string*

Description	Timestamp representing the time of the last Notification message received from the peer.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages last-notification-time *string*
Tree	last-notification-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-update-time *string*

Description	The timestamp when the last UPDATE was received from this peer.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages last-update-time *string*
Tree	last-update-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

malformed-updates *number*

Description	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)
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages malformed-updates *number*
Tree	malformed-updates
Default	0
Configurable	False
Platforms	Supported on all platforms

queue-depth *number*

Description	The number of messages received from the peer currently queued.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages queue-depth *number*
Tree	queue-depth
Configurable	False
Platforms	Supported on all platforms

route-refresh *number*

Description	Number of BGP ROUTE_REFRESH messages received from the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages route-refresh *number*
Tree	route-refresh
Default	0
Configurable	False
Platforms	Supported on all platforms

total-messages *number*

Description	Total number of BGP messages received from the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages total-messages *number*
Tree	total-messages
Default	0
Configurable	False
Platforms	Supported on all platforms

total-non-updates *number*

Description	Number of BGP NON UPDATE messages received from the peer over the lifetime of its configuration or since the last clear.

Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages total-non-updates *number*
Tree	total-non-updates
Configurable	False
Platforms	Supported on all platforms

total-notifications *number*

Description	Number of BGP Notification messages received from the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages total-notifications *number*
Tree	total-notifications
Configurable	False
Platforms	Supported on all platforms

total-updates *number*

Description	Number of BGP UPDATE messages received from the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* received-messages total-updates *number*
Tree	total-updates
Default	0
Configurable	False
Platforms	Supported on all platforms

route-reflector

Description	Container with route reflection configuration options.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* route-reflector
Tree	route-reflector
Configurable	True
Platforms	Supported on all platforms

client *boolean*

Description	When this is set to true this BGP session is considered an RR client.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* route-reflector client *boolean*
Tree	client
Configurable	True
Platforms	Supported on all platforms

cluster-id *(number | dotted-quad)*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* route-reflector cluster-id *(number | dotted-quad)*
Tree	cluster-id
Configurable	True
Platforms	Supported on all platforms

send-default-route

Description	Options for controlling the generation of default routes towards the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* send-default-route
Tree	send-default-route
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* send-default-route export-policy *reference*

Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

ipv4-unicast *boolean*

Description	Enables the sending of a synthetically generated default IPv4 route [0/0] to the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* send-default-route ipv4-unicast *boolean*
Tree	ipv4-unicast
Configurable	True
Platforms	Supported on all platforms

ipv6-unicast *boolean*

Description	Enables the sending of a synthetically generated default IPv6 route [::/0] to the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* send-default-route ipv6-unicast *boolean*
Tree	ipv6-unicast
Configurable	True
Platforms	Supported on all platforms

sent-end-of-rib *identityref*

Description	List of address families for which this router sent the peer an End of RIB marker
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-end-of-rib *identityref*
Tree	sent-end-of-rib
Options	• ipv4-unicast Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1) • ipv6-unicast Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1)

- l3vpn-ipv4-unicast

  VPN-IPv4 unicast address family (AFI = 1, SAFI = 128)
- l3vpn-ipv6-unicast

  VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)
- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)
- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)
- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable False

Platforms Supported on all platforms

sent-messages

Description Container for state information about BGP messages sent to the peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages

Tree sent-messages

Configurable False

Platforms Supported on all platforms

last-notification-error-code *keyword*

Description The error code in the last NOTIFICATION sent to this peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages last-notification-error-code *keyword*

Tree last-notification-error-code

Options

- Message Header Error
- Open Message Error
- Update Message Error
- Hold Timer Error
- Finite State Machine Error
- Cease

Configurable False

Platforms Supported on all platforms

last-notification-error-subcode *keyword*

Description The error subcode in the last NOTIFICATION sent to this peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages last-notification-error-subcode *keyword*

Tree last-notification-error-subcode

Options

- Connection Not Synchronized
- Bad Message Length
- Bad Message Type
- Unsupported Version Number
- Bad Peer As
- Bad BGP Identifier
- Unsupported Optional Parameter
- Unacceptable Hold Time
- UPDATE Message Error subcodes
- Malformed Attribute List
- Unrecognized Well-known Attribute
- Missing Well-known Attribute
- Attribute Flags Error
- Attribute Length Error
- Invalid ORIGIN Attribute
- Invalid NEXT_HOP Attribute
- Optional Attribute Error
- Invalid Network Field
- Malformed AS_PATH
- Maximum Number of Prefixes Reached
- Administrative Shutdown
- Peer De-configured
- Administrative Reset
- Connection Rejected
- Other Configuration Change
- Connection Collision Resolution
- Out of Resources
- Unspecific

- Hard Reset
- Unsupported Capability

Configurable False

Platforms Supported on all platforms

last-notification-time *string*

Description Timestamp representing the time of the last Notification message sent to the peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages last-notification-time *string*

Tree last-notification-time

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

queue-depth *number*

Description The number of messages queued to be sent to the peer.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages queue-depth *number*

Tree queue-depth

Configurable False

Platforms Supported on all platforms

route-refresh *number*

Description Number of BGP ROUTE_REFRESH messages sent to the peer over the lifetime of its configuration or since the last clear.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages route-refresh *number*

Tree route-refresh

Default 0

Configurable False

Platforms Supported on all platforms

total-messages *number*

Description	Total number of BGP messages sent to the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages total-messages *number*
Tree	total-messages
Default	0
Configurable	False
Platforms	Supported on all platforms

total-non-updates *number*

Description	Number of BGP NON UPDATE messages sent to the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages total-non-updates *number*
Tree	total-non-updates
Configurable	False
Platforms	Supported on all platforms

total-notifications *number*

Description	Number of BGP Notification messages sent to the peer over the lifetime of its configuration or since the last clear.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages total-notifications *number*
Tree	total-notifications
Configurable	False
Platforms	Supported on all platforms

total-updates *number*

Description	Number of BGP UPDATE messages sent to the peer over the lifetime of its configuration or since the last clear.

Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* sent-messages total-updates *number*
Tree	total-updates
Default	0
Configurable	False
Platforms	Supported on all platforms

session-state *keyword*

Description	Current state of the session
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* session-state *keyword*
Tree	session-state
Options	• idle • connect • active • opensent • openconfirm • established
Configurable	False
Platforms	Supported on all platforms

slow-peer *keyword*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* slow-peer *keyword*
Tree	slow-peer
Options	• yes • no • unknown
Configurable	False
Platforms	Supported on all platforms

timers

Description	Enter the timers context
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers
Tree	timers
Configurable	True
Platforms	Supported on all platforms

connect-retry *number*

Description	The time interval in seconds between successive attempts to establish a session with a peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers connect-retry *number*
Tree	connect-retry
Range	1 to 65535
Units	seconds
Configurable	True
Platforms	Supported on all platforms

hold-time *number*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers hold-time *number*
Tree	hold-time
Range	0 | 3 to 65535
Units	seconds
Configurable	True
Platforms	Supported on all platforms

keepalive-interval *number*

Description	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 (or inherited) value and 1/3 of the negotiated hold-time duration. A value of 0 suppresses the sending of keepalives to the peer.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers keepalive-interval *number*
Tree	keepalive-interval
Range	0 to 21845
Units	seconds
Configurable	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 neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers minimum-advertisement-interval *number*
Tree	minimum-advertisement-interval
Range	1 to 255
Units	seconds
Configurable	True
Platforms	Supported on all platforms

negotiated-hold-time *number*

Description	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.

Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers negotiated-hold-time *number*
Tree	negotiated-hold-time
Configurable	False
Platforms	Supported on all platforms

negotiated-keepalive-interval *number*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers negotiated-keepalive-interval *number*
Tree	negotiated-keepalive-interval
Configurable	False
Platforms	Supported on all platforms

next-connect-retry-time *string*

Description	The time when the next connect retry attempt will occur
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers next-connect-retry-time *string*
Tree	next-connect-retry-time
String Length	20 to 32
Configurable	False
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 neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* timers prefix-limit-restart-timer *number*

Tree	prefix-limit-restart-timer
Units	seconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options

Description	Debug traceoptions for BGP
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* 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 neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* 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 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.

Configurable True

Platforms Supported on all platforms

transport

Description Enter the transport context

Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* transport
Tree	transport
Configurable	True
Platforms	Supported on all platforms

local-address *(ipv4-address | ipv6-address | string)*

Description	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.
Context	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)*
Tree	local-address
Configurable	True
Platforms	Supported on all platforms

local-port *number*

Description	Local TCP port used for the TCP connection to the peer
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* transport local-port *number*
Tree	local-port
Configurable	False
Platforms	Supported on all platforms

mtu-discovery *boolean*

Description	Turns path mtu discovery on (true) or off (false)
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* transport mtu-discovery *boolean*
Tree	mtu-discovery
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

passive-mode *boolean*

Description	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.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* transport passive-mode *boolean*
Tree	passive-mode
Configurable	True
Platforms	Supported on all platforms

remote-port *number*

Description	Remote TCP port used by the peer for its TCP connection to the local router
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* transport remote-port *number*
Tree	remote-port
Configurable	False
Platforms	Supported on all platforms

tcp-mss *number*

Description	The maximum segment size of BGP TCP packets The configured value of this leaf is the TCP MSS value advertised to the peer during TCP connection setup (in the TCP MSS option), reduced if necessary to accommodate the outgoing interface IP MTU. The state value of this leaf is the operational TCP MSS used in the data transmit direction towards the peer. It may be less than the received TCP MSS option value due to adjustment for TCP options used in the transit direction and/or the path MTU discovery process (if enabled).
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* transport tcp-mss *number*
Tree	tcp-mss
Range	536 to 9446

Units	bytes
Configurable	True
Platforms	Supported on all platforms

under-maintenance *boolean*

Description	State field to determine if this bgp neighbor is in maintenance mode.
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* under-maintenance *boolean*
Tree	under-maintenance
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	Enter the oper-state context
Context	network-instance name *string* protocols bgp oper-state *keyword*
Tree	oper-state
Options	• up Operational state of BGP is up. • down Operational state of BGP is down.
Configurable	False
Platforms	Supported on all platforms

preference

Description	Options for controlling the route table preference of BGP routes
Context	network-instance name *string* protocols bgp preference
Tree	preference
Configurable	True
Platforms	Supported on all platforms

ebgp *number*

Description	The default route table preference for all EBGP learned routes

BGP import policies can override this preference value on a route by route basis.

Context network-instance name *string* protocols bgp preference ebgp *number*

Tree ebgp

Range 1 to 255

Default 170

Configurable True

Platforms Supported on all platforms

ibgp *number*

Description The default route table preference for all IBGP learned routes

BGP import policies can override this preference value on a route by route basis.

Context network-instance name *string* protocols bgp preference ibgp *number*

Tree ibgp

Range 1 to 255

Default 170

Configurable True

Platforms Supported on all platforms

route-advertisement

Description Options for controlling route advertisement behavior

Context network-instance name *string* protocols bgp route-advertisement

Tree route-advertisement

Configurable True

Platforms Supported on all platforms

rapid-withdrawal *boolean*

Description The true setting enables rapid-withdraw towards BGP peers

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.

Context	network-instance name *string* protocols bgp route-advertisement rapid-withdrawal *boolean*
Tree	rapid-withdrawal
Default	false
Configurable	True
Platforms	Supported on all platforms

wait-for-fib-install *boolean*

Description	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.
Context	network-instance name *string* protocols bgp route-advertisement wait-for-fib-install *boolean*
Tree	wait-for-fib-install
Default	true
Configurable	True
Platforms	Supported on all platforms

route-reflector

Description	Container with route reflection configuration options.
Context	network-instance name *string* protocols bgp route-reflector
Tree	route-reflector
Configurable	True
Platforms	Supported on all platforms

client *boolean*

Description	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.
Context	network-instance name *string* protocols bgp route-reflector client *boolean*
Tree	client
Default	false
Configurable	True

Platforms	Supported on all platforms

cluster-id *(number | dotted-quad)*

Description	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.
Context	network-instance name *string* protocols bgp route-reflector cluster-id *(number | dotted-quad)*
Tree	cluster-id
Configurable	True
Platforms	Supported on all platforms

router-id *(ipv4-address | ipv6-address)*

Description	The BGP identifier used by this BGP instance in all of its OPEN messages Any non-zero value is supported.
Context	network-instance name *string* protocols bgp router-id *(ipv4-address | ipv6-address)*
Tree	router-id
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Container for BGP statistics.
Context	network-instance name *string* protocols bgp statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

disabled-peers *number*

Description	The number of configured BGP peers that are administratively disabled
Context	network-instance name *string* protocols bgp statistics disabled-peers *number*
Tree	disabled-peers
Configurable	False

Platforms	Supported on all platforms

dynamic-peers *number*

Description	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
Context	network-instance name *string* protocols bgp statistics dynamic-peers *number*
Tree	dynamic-peers
Configurable	False
Platforms	Supported on all platforms

path-memory *number*

Description	The total number of bytes required to store the path attribute objects used by all received BGP routes
Context	network-instance name *string* protocols bgp statistics path-memory *number*
Tree	path-memory
Default	0
Configurable	False
Platforms	Supported on all platforms

total-active-routes *number*

Description	The total number of received BGP routes that are active (installed for forwarding), summed across all address families
Context	network-instance name *string* protocols bgp statistics total-active-routes *number*
Tree	total-active-routes
Default	0
Configurable	False
Platforms	Supported on all platforms

total-paths *number*

Description	The total number of path attribute objects used by all received BGP routes
Context	network-instance name *string* protocols bgp statistics total-paths *number*

Tree	total-paths
Default	0
Configurable	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.

Configurable True

Platforms Supported on all platforms

modifier *keyword*

Description Enter the modifier context

Context network-instance name *string* protocols bgp 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.

Configurable True

Platforms Supported on all platforms

transport

Description Options related to the TCP transport of BGP sessions

Context network-instance name *string* protocols bgp transport

Tree transport

Configurable True

Platforms Supported on all platforms

mtu-discovery *boolean*

Description Turns path mtu discovery for BGP TCP sessions on (true) or off (false)

If this is unconfigured then the setting comes from network-instance/mtu/path-mtu-discovery.

Changing the value of network-instance/mtu/path-mtu-discovery takes effect only for new connections established after the change

Context network-instance name *string* protocols bgp transport mtu-discovery *boolean*

Tree mtu-discovery

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

single-hop-connected-check *boolean*

Description Control whether a single-hop BGP session should be allowed to setup if its 'related interface' is down.

If single-hop-connected-check 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.

If single-hop-connected-check 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.

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.

Context network-instance name *string* protocols bgp transport single-hop-connected-check *boolean*

Tree single-hop-connected-check

Default true

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tcp-mss *number*

Description	The maximum segment size of BGP TCP packets The actual value used in the transmit direction towards a particular peer should be checked at the neighbor level.
Context	network-instance name *string* protocols bgp transport tcp-mss *number*
Tree	tcp-mss
Range	536 to 9446
Default	1024
Configurable	True
Platforms	Supported on all platforms

under-maintenance *boolean*

Description	State field to determine if the bgp instance is in maintenance mode.
Context	network-instance name *string* protocols bgp under-maintenance *boolean*
Tree	under-maintenance
Configurable	False
Platforms	Supported on all platforms

bgp-evpn

Description	Enable the bgp-evpn context
Context	network-instance name *string* protocols bgp-evpn
Tree	bgp-evpn
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

bgp-instance id *reference*

Description	bgp evpn instances configured in net-instance
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference*
Tree	bgp-instance
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

Max. Elements	1

id *reference*

Description	Enter the id context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference*
Reference	network-instance name *string* protocols bgp-vpn bgp-instance id *number*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	Configurable state of the bgp evpn instance.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ecmp *number*

Description	The supported range of ECMP values for layer-2 aliasing (in mac-vrf instances) or layer-3 ecmp (in routed instances).
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* ecmp *number*
Tree	ecmp
Range	1 to 8
Default	1
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

encapsulation-type *keyword*

Description encap type of the bgp evpn instance.

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* encapsulation-type *keyword*

Tree encapsulation-type

Default vxlan

Options
- vxlan
- mpls

Configurable True

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

evi *number*

Description EVPN Instance identifier associated to the bgp-evpn instance.

Used for auto-derivation of:

In addition, the evi value is used for the EVPN Multi-Homing Designated Forwarder (DF) Election.

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* evi *number*

Tree evi

Range 1 to 65535

Configurable True

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

oper-down-reason *keyword*

Description The reason for the bgp-instance being down

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* oper-down-reason *keyword*

Tree oper-down-reason

Options
- admin-disabled
- no-nexthop-address
- no-evi
- network-instance-oper-down
- no-vxlan-interface

- ethernet-segment-multiple-subinterfaces
- vxlan_interface_no_source_ip_address
- bgp-vpn-instance-oper-down
- no-mpls-label
- no-mcid
- no-local-attachment-circuit
- no-remote-attachment-circuit
- tag-set-not-resolved

Configurable False

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

oper-state *keyword*

Description This leaf contains the operational state of bgp-instance.

Context network-instance name *string* protocols bgp-evpn bgp-instance id *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.

Configurable False

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

routes

Description Enter the routes context

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes

Tree routes

Configurable True

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

bridge-table

Description Enable the bridge-table context

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table

Tree bridge-table

Configurable True

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

inclusive-mcast

Description	Enter the inclusive-mcast context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table inclusive-mcast
Tree	inclusive-mcast
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise *boolean*

Description	If set to true an inclusive multicast route will be advertised in this evpn instance.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table inclusive-mcast advertise *boolean*
Tree	advertise
Default	true
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

originating-ip *(ipv4-address | ipv6-address)*

Description	The originating ip-address that the inclusive multicast route will be advertised with in this evpn instance
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table inclusive-mcast originating-ip *(ipv4-address | ipv6-address)*
Tree	originating-ip
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-ip

Description	Enter the mac-ip context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table mac-ip

Tree	mac-ip
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise *boolean*

Description	If set to true then local mac's and local mac-ip pairs will be advertised in this evpn instance
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table mac-ip advertise *boolean*
Tree	advertise
Default	true
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise-arp-nd-extended-community *boolean*

Description	ARP/ND extended community
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table mac-ip advertise-arp-nd-extended-community *boolean*
Tree	advertise-arp-nd-extended-community
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

advertise-arp-nd-only-with-mac-table-entry *boolean*

Description	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
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table mac-ip advertise-arp-nd-only-with-mac-table-entry *boolean*
Tree	advertise-arp-nd-only-with-mac-table-entry
Default	false
Configurable	True

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

next-hop *(keyword | ipv4-address | ipv6-address)*

Description	The ip-address that will be used as the bgp next-hop for all routes advertised in this evpn instance.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table next-hop *(keyword | ipv4-address | ipv6-address)*
Tree	next-hop
Default	use-system-ipv4-address
Options	• use-system-ipv4-address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vlan-aware-bundle-eth-tag *number*

Description	Configures the Ethernet Tag ID to be encoded in the EVPN routes for control-plane interoperability mode with VLAN-aware bundle services. 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.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes bridge-table vlan-aware-bundle-eth-tag *number*
Tree	vlan-aware-bundle-eth-tag
Range	0 to 16777215
Default	0
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

route-table

Description	Enable the route-table context

Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table
Tree	route-table
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ip-prefix

Description	Enter the ip-prefix context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix
Tree	ip-prefix
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evpn-link-bandwidth

Description	Enter the evpn-link-bandwidth context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth
Tree	evpn-link-bandwidth
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise

Description	Enable the advertise context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth advertise
Tree	advertise
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

maximum-dynamic-weight *number*

Description Determines the maximum weight to be advertised in the evpn-link-bandwidth extended community

If weight 'dynamic' is configured, the actual advertised weight is the minimum of the number of BGP PE-CE paths for the prefix and the configured maximum weight.

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth advertise maximum-dynamic-weight *number*

Tree maximum-dynamic-weight

Range 1 to 128

Default 128

Configurable True

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

weight *(number | keyword)*

Description Determines the weight to be advertised in the evpn-link-bandwidth extended community

If set to dynamic, the weight is dynamically set based on the number of BGP PE-CE paths for the IP Prefix that is advertised in an EVPN IP Prefix route. Alternatively, the weight can be set to a fixed integer value in the range 1..128. The dynamic weight only considers BGP PE-CE paths.

Context network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth advertise weight *(number | keyword)*

Tree weight

Range 1 to 128

Default dynamic

Options

- dynamic

Configurable True

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

weighted-ecmp

Description Enter the weighted-ecmp context

Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth weighted-ecmp
Tree	weighted-ecmp
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	Setting enable triggers weighted ECMP programming for all elegible multipath EVPN IFL routes When set to enable, the router processes the evpn-link-bandwidth extended community when installing an ECMP set for an EVPN IP-Prefix route in the ip-vrf route table. Flows to an IP Prefix received with a weight and a zero-ESI are sprayed based on the weight. If the EVPN IP Prefix route received with the weight has a non-zero ESI, the weight is divided into the number of PEs attached to the Ethernet Segment (and rounded up if the result is not an integer). The command also enables the weighted ECMP functionality for BGP CEs that are configured with the parameter evpn-link-bandwidth add-weight-to-received-bgp-routes <weight>.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth weighted-ecmp admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

max-ecmp-hash-buckets-per-next-hop-group *number*

Description	Specifies the maximum number of ECMP hash buckets per next-hop-group Weighted ECMP weights are normalized based on this number of hash buckets.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table ip-prefix evpn-link-bandwidth weighted-ecmp max-ecmp-hash-buckets-per-next-hop-group *number*
Tree	max-ecmp-hash-buckets-per-next-hop-group

Range	1 to 128
Default	128
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-ip

Description	Enter the mac-ip context
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table mac-ip
Tree	mac-ip
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

advertise-gateway-mac *boolean*

Description	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.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* routes route-table mac-ip advertise-gateway-mac *boolean*
Tree	advertise-gateway-mac
Default	false
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vxlan-interface *reference*

Description	Identifier of vxlan-interface used in this bgp-instance.
Context	network-instance name *string* protocols bgp-evpn bgp-instance id *reference* vxlan-interface *reference*
Tree	vxlan-interface

Reference	network-instance name *string* vxlan-interface name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

bgp-vpn

Description	Enable the bgp-vpn context
Context	network-instance name *string* protocols bgp-vpn
Tree	bgp-vpn
Configurable	True
Platforms	Supported on all platforms

bgp-instance id *number*

Description	List of bgp-vpn instances configured in the network-instance. Only one instance allowed in the current release.
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number*
Tree	bgp-instance
Configurable	True
Platforms	Supported on all platforms
Max. Elements	2

id *number*

Description	The index of the bgp-vpn instance
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number*
Range	1 to 2
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to advertised BGP routes
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number* export-policy *reference*
Tree	export-policy

Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

import-policy *reference*

Description	Apply an import policy to received BGP routes
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number* import-policy *reference*
Tree	import-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	Reason for bgp-instance being down
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• no-loopback-address-or-rd • no-autonomous-system-or-rt • network-instance-oper-down • bad-rd-format • none
Configurable	False
Platforms	Supported on all platforms

route-distinguisher

Description	Route Distinguisher (RD) of the bgp-vpn instance.
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number* route-distinguisher
Tree	route-distinguisher
Configurable	True
Platforms	Supported on all platforms

rd *(route-distinguisher-type-0 | route-distinguisher-type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)*

Description 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.

Context network-instance name *string* 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)*

Tree rd

Configurable True

Platforms Supported on all platforms

route-distinguisher-origin *keyword*

Description 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 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
Configurable	False
Platforms	Supported on all platforms

export-rt *(string | string | string | string | string | string | string)*

Description	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.
Context	network-instance name *string* protocols bgp-vpn bgp-instance id *number* route-target export-rt *(string | string | string | string | string | string | string)*
Tree	export-rt
Configurable	True
Platforms	Supported on all platforms

import-route-target-origin *keyword*

Description	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.

Context network-instance name *string* protocols bgp-vpn bgp-instance id *number* route-target import-route-target-origin *keyword*

Tree import-route-target-origin

Options

- auto-derived-from-evi
- auto-derived-from-esi-bytes-1-6
- manual
- none

Configurable False

Platforms Supported on all platforms

import-rt *(string | string | string | string | string | string | string)*

Description 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.

Context network-instance name *string* protocols bgp-vpn bgp-instance id *number* route-target import-rt *(string | string | string | string | string | string | string)*

Tree import-rt

Configurable True

Platforms Supported on all platforms

gribi

Description Container for gRIBI configuration and state.

Context network-instance name *string* protocols gribi

Tree gribi

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description Administratively enable or disable gRIBI support. The enable setting only has an effect when the network-instance type is ip-vrf or default. 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.)

Context network-instance name *string* protocols gribi admin-state *keyword*

Tree admin-state

Default enable

Options
- enable
- disable

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric *number*

Description Set the route table metric to use for all gRIBI-created IPv4 and IPv6 routes

Context network-instance name *string* protocols gribi default-metric *number*

Tree default-metric

Default 1

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-preference *number*

Description Lower values indicate a higher degree of preference when deciding the route to use from different protocols.

Context network-instance name *string* protocols gribi default-preference *number*

Tree default-preference

Range 0 to 255

Default 6

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-ecmp-hash-buckets-per-next-hop-group *number*

Description 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.

Context network-instance name *string* protocols gribi max-ecmp-hash-buckets-per-next-hop-group *number*

Tree max-ecmp-hash-buckets-per-next-hop-group

Range 1 to 256

Default 256

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum-routes *number*

Description Specifies the maximum number of gRIBI routes (sum of IPv4 and IPv6 entries).

A value of 0 signifies no limit.

Context network-instance name *string* protocols gribi maximum-routes *number*

Tree maximum-routes

Default 0

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

isis

Description Enable the isis context

Context network-instance name *string* protocols isis

Tree isis

Configurable True

Platforms Supported on all platforms

dynamic-label-block *reference*

Description 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.

Context network-instance name *string* protocols isis dynamic-label-block *reference*

Tree	dynamic-label-block
Reference	system mpls label-ranges dynamic name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dynamic-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 dynamic-label-block-status *keyword*
Tree	dynamic-label-block-status
Options	• available • unavailable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance name *string*

Description	List of IS-IS protocol instances associated with this network-instance. Only a single instance is supported for now
Context	network-instance name *string* protocols isis instance name *string*
Tree	instance
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	The name of the IS-IS instance
Context	network-instance name *string* protocols isis instance name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description Used to administratively enable or disable the IS-IS instance

Context network-instance name *string* protocols isis instance name *string* admin-state *keyword*

Tree admin-state

Default disable

Options
- enable
- disable

Configurable True

Platforms Supported on all platforms

attached-bit

Description This container provides option for handling the ATTached bit in L1 LSPs

Context network-instance name *string* protocols isis instance name *string* attached-bit

Tree attached-bit

Configurable True

Platforms Supported on all platforms

ignore *boolean*

Description 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.

Context network-instance name *string* protocols isis instance name *string* attached-bit ignore *boolean*

Tree ignore

Default false

Configurable True

Platforms Supported on all platforms

suppress *boolean*

Description 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.

Context	network-instance name *string* protocols isis instance name *string* attached-bit suppress *boolean*
Tree	suppress
Default	false
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Container for specifying authetication 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.
Context	network-instance name *string* protocols isis instance name *string* authentication
Tree	authentication
Configurable	True
Platforms	Supported on all platforms

csnp-authentication

Description	Container with options to control the authentication of CSNP PDUs
Context	network-instance name *string* protocols isis instance name *string* authentication csnp-authentication
Tree	csnp-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 csnp-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 athentication 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 csnp-authentication generate *boolean*

Tree generate

Configurable 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 athentication 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*

Tree generate

Configurable True

Platforms Supported on all platforms

key

Description 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

Context network-instance name *string* protocols isis instance name *string* authentication key

Tree key

Configurable True

Platforms Supported on all platforms

auth-password *string*

Description The secret key to use for authentication of PDUs

Context network-instance name *string* protocols isis instance name *string* authentication key auth-password *string*

Tree auth-password

Configurable True

Platforms Supported on all platforms

crypto-algorithm *keyword*

Description The cryptographic algorithm used with the keying material to secure the messages.

Context network-instance name *string* protocols isis instance name *string* authentication key crypto-algorithm *keyword*

Tree crypto-algorithm

Options

- cleartext

  The authentication-key is encoded in plaintext.

- hmac-md5

  The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).

- 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).

Configurable True

Platforms Supported on all platforms

keychain *reference*

Description Specifies a keychain to use for the authentication of PDUs when the behavior is controlled at this level of the configuration hierarchy.

Context network-instance name *string* protocols isis instance name *string* authentication keychain *reference*

Tree keychain

Reference system authentication keychain name *string*

Configurable True

Platforms Supported on all platforms

lsp-authentication

Description Container with options to control the authentication of Link State PDUs

Context network-instance name *string* protocols isis instance name *string* authentication lsp-authentication

Tree lsp-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 lsp-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 athentication 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 lsp-authentication generate *boolean*

Tree generate

Configurable 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* 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* 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 athentication 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 psnp-authentication generate *boolean*

Tree	generate
Configurable	True
Platforms	Supported on all platforms

auto-cost

Description	Enter the auto-cost context
Context	network-instance name *string* protocols isis instance name *string* auto-cost
Tree	auto-cost
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: cost = reference-bandwidth / 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, 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
Context	network-instance name *string* protocols isis instance name *string* auto-cost reference-bandwidth *number*
Tree	reference-bandwidth
Range	1 to 8000000000
Units	kbps
Configurable	True
Platforms	Supported on all platforms

enable-csnp-on-p2p-links *boolean*

Description	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.

Context network-instance name *string* protocols isis instance name *string* enable-csnp-on-p2p-links *boolean*

Tree enable-csnp-on-p2p-links

Default true

Configurable True

Platforms Supported on all platforms

export-policy *reference*

Description Apply an export policy to redistribute non-ISIS routes into ISIS

Context network-instance name *string* protocols isis instance name *string* export-policy *reference*

Tree export-policy

Reference routing-policy policy name *string*

Configurable True

Platforms Supported on all platforms

graceful-restart

Description Container for options related to IS-IS graceful restart

Context network-instance name *string* protocols isis instance name *string* graceful-restart

Tree graceful-restart

Configurable True

Platforms Supported on all platforms

acceptable-duration *number*

Description 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.

Context network-instance name *string* protocols isis instance name *string* graceful-restart acceptable-duration *number*

Tree acceptable-duration

Range 1 to 20000

Default	60
Units	seconds
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

helper-mode *boolean*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* graceful-restart helper-mode *boolean*
Tree	helper-mode
Default	false
Configurable	True
Platforms	Supported on all platforms

hello-padding *keyword*

Description	Specifies the use of IS-IS Hello PDU padding all interfaces This can be overridden by interface configuration.
Context	network-instance name *string* protocols isis instance name *string* hello-padding *keyword*
Tree	hello-padding
Default	disable
Options	• strict Strict padding option. Hello padding is done continuously, regardless of adjacency state or interface type. • 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. • 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.

- disable

  This enum disables hello PDU padding

Configurable True

Platforms Supported on all platforms

hostnames

Description Enter the hostnames context

Context network-instance name *string* protocols isis instance name *string* hostnames

Tree hostnames

Configurable False

Platforms Supported on all platforms

system-id host-system-id *string*

Description List of system IDs that have discovered hostnames.

Context network-instance name *string* protocols isis instance name *string* hostnames system-id host-system-id *string*

Tree system-id

Configurable False

Platforms Supported on all platforms

host-system-id *string*

Description The system ID

Context network-instance name *string* protocols isis instance name *string* hostnames system-id host-system-id *string*

String Length 14

Configurable False

Platforms Supported on all platforms

hostname *string*

Description The hostname of the system.

Context	network-instance name *string* protocols isis instance name *string* hostnames system-id host-system-id *string* hostname *string*
Tree	hostname
Configurable	False
Platforms	Supported on all platforms

iid-tlv *boolean*

Description	ISIS Instance Identifier TLV. When set to true, IID-TLV identifies the unique instance as well as the topology/topologies to which the PDU applies.
Context	network-instance name *string* protocols isis instance name *string* iid-tlv *boolean*
Tree	iid-tlv
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-id *number*

Description	ISIS instance number
Context	network-instance name *string* protocols isis instance name *string* instance-id *number*
Tree	instance-id
Range	0 to 127
Default	0
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

inter-level-propagation-policies

Description	Container with options to control the propagation of prefixes between levels
Context	network-instance name *string* protocols isis instance name *string* inter-level-propagation-policies
Tree	inter-level-propagation-policies

Configurable	True
Platforms	Supported on all platforms

level1-to-level2

Description	Container with options to control the propagation of prefixes from level 1 to level 2. By default all L1 prefixes are propagated without summarizarion into L2.
Context	network-instance name *string* protocols isis instance name *string* inter-level-propagation-policies level1-to-level2
Tree	level1-to-level2
Configurable	True
Platforms	Supported on all platforms

summary-address ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description	List of summarization prefixes
Context	network-instance name *string* protocols isis instance name *string* inter-level-propagation-policies level1-to-level2 summary-address ip-prefix *(ipv4-prefix | ipv6-prefix)*
Tree	summary-address
Configurable	True
Platforms	Supported on all platforms

ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description	An IP prefix advertised into L2 that summarizes one or more L1 prefixes and causes them to be suppressed
Context	network-instance name *string* protocols isis instance name *string* inter-level-propagation-policies level1-to-level2 summary-address ip-prefix *(ipv4-prefix | ipv6-prefix)*
Configurable	True
Platforms	Supported on all platforms

route-tag *number*

Description	Specifies route tag value to assign to the summary route

Context	network-instance name *string* protocols isis instance name *string* inter-level-propagation-policies level1-to-level2 summary-address ip-prefix *(ipv4-prefix | ipv6-prefix)* route-tag *number*
Tree	route-tag
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

interface interface-name *string*

Description	List of IS-IS interfaces
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

interface-name *string*

Description	Name of the IS-IS interface
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

adjacency neighbor-system-id *string* adjacency-level *string*

Description	List of adjacencies formed through this interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string*
Tree	adjacency
Configurable	False
Platforms	Supported on all platforms

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* adjacency neighbor-system-id *string* adjacency-level *string*
String Length	14
Configurable	False
Platforms	Supported on all platforms

adjacency-level *string*

Description	The level of the adjacency that is formed.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string*
Configurable	False
Platforms	Supported on all platforms

area-address *string*

Description	Area address of the neighbor.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* area-address *string*
Tree	area-address
String Length	2 to 38
Configurable	False
Platforms	Supported on all platforms

designated-is-system-id *string*

Description	System id of the designated IS router.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* designated-is-system-id *string*
Tree	designated-is-system-id
String Length	14
Configurable	False

Platforms Supported on all platforms

down-reason *keyword*

Description The reason why the adjacency is down.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* down-reason *keyword*

Tree down-reason

Options

- 3-way-handshake-failed
- 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

Configurable False

Platforms Supported on all platforms

last-up-down-transition *string*

Description The last time when the adjacency entered the up or down state.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* last-up-down-transition *string*

Tree last-up-down-transition

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

local-extended-circuit-id *number*

Description Local extended circuit ID.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* local-extended-circuit-id *number*

Tree local-extended-circuit-id

Configurable False

Platforms Supported on all platforms

neighbor-circuit-type *keyword*

Description The circuit type signalled by the neighbor.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-circuit-type *keyword*

Tree neighbor-circuit-type

Default L1L2

Options

- L1

  This enum describes ISIS level 1
- L2

  This enum describes ISIS level 2
- L1L2

  This enum describes ISIS level 1-2

Configurable False

Platforms Supported on all platforms

neighbor-extended-circuit-id *number*

Description Extended circuit ID assigned by the neighbor.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-extended-circuit-id *number*

Tree neighbor-extended-circuit-id

Configurable False

Platforms Supported on all platforms

neighbor-hostname *string*

Description	The hostname of the neighbor, as learned by TLV 137.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-hostname *string*
Tree	neighbor-hostname
Configurable	False
Platforms	Supported on all platforms

neighbor-ipv4 *string*

Description	The IPv4 address of the neighbor.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-ipv4 *string*
Tree	neighbor-ipv4
Configurable	False
Platforms	Supported on all platforms

neighbor-ipv6 *string*

Description	The IPv6 address of the neighbor.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-ipv6 *string*
Tree	neighbor-ipv6
Configurable	False
Platforms	Supported on all platforms

neighbor-last-restart *(keyword | date-and-time-delta)*

Description	The last time the neighbor restarted under protection of graceful restart.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-last-restart *(keyword | date-and-time-delta)*
Tree	neighbor-last-restart
String Length	20 to 32
Options	• never

Configurable	False
Platforms	Supported on all platforms

neighbor-priority *number*

Description	The priority signalled by the neighbor to become the DIS on a LAN
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-priority *number*
Tree	neighbor-priority
Range	0 to 127
Configurable	False
Platforms	Supported on all platforms

neighbor-restart-capable *boolean*

Description	Reads true when the neighbor has signalled that it is restart capable.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-restart-capable *boolean*
Tree	neighbor-restart-capable
Configurable	False
Platforms	Supported on all platforms

neighbor-restart-status *keyword*

Description	The status of the neighbor with respect to graceful restart
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-restart-status *keyword*
Tree	neighbor-restart-status
Options	• not-helping • helping
Configurable	False
Platforms	Supported on all platforms

neighbor-restarts *number*

Description The number of times the neighbor has restarted under protection of graceful restart.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-restarts *number*

Tree neighbor-restarts

Configurable False

Platforms Supported on all platforms

neighbor-snpa *string*

Description The SNPA of the neighbor.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* neighbor-snpa *string*

Tree neighbor-snpa

String Length 0 to 20

Configurable False

Platforms Supported on all platforms

nlpid *keyword*

Description List of protocols supported by the adjacency.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* 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

remaining-holdtime *number*

Description The time remaining until the hold timer will expire.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* remaining-holdtime *number*

Tree remaining-holdtime

Units seconds

Configurable False

Platforms Supported on all platforms

state *keyword*

Description The current state of the adjacency.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* state *keyword*

Tree state

Options

- up

  This state describes that adjacency is established.
- down

  This state describes that adjacency is NOT established.
- init

  This state describes that adjacency is establishing.
- failed

  This state describes that adjacency is failed.

Configurable False

Platforms Supported on all platforms

up-down-transitions *number*

Description The total number of transitions from Up state to a lower state, since the last clear.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacency neighbor-system-id *string* adjacency-level *string* up-down-transitions *number*

Tree up-down-transitions

Default 0

Configurable	False
Platforms	Supported on all platforms

admin-state *keyword*

Description	Used to administratively enable or disable the IS-IS protocol on a routed subinterface
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Container for specifying authetication options that apply to the IS-IS instance.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* authentication
Tree	authentication
Configurable	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* interface interface-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* interface interface-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 athentication 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* interface interface-name *string* authentication hello-authentication generate *boolean*

Tree generate

Configurable True

Platforms Supported on all platforms

key

Description Container to specify the secret key and crypto algorithm to use for the authentication of Hello PDUs on this interface

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* authentication key

Tree key

Configurable	True
Platforms	Supported on all platforms

auth-password *string*

Description	The secret key to use for authentication of Hello PDUs
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* authentication key auth-password *string*
Tree	auth-password
Configurable	True
Platforms	Supported on all platforms

crypto-algorithm *keyword*

Description	The cryptographic algorithm used with the keying material to secure the messages.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* authentication key crypto-algorithm *keyword*
Tree	crypto-algorithm
Options	• cleartext The authentication-key is encoded in plaintext. • hmac-md5 The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104). • 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).
Configurable	True
Platforms	Supported on all platforms

keychain *reference*

Description	Specifies a keychain to use for the authentication of Hello PDUs on this interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* authentication keychain *reference*
Tree	keychain

Reference	system authentication keychain name *string*
Configurable	True
Platforms	Supported on all platforms

circuit-id *number*

Description	The circuit ID assigned by this IS-IS router to its interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* circuit-id *number*
Tree	circuit-id
Configurable	False
Platforms	Supported on all platforms

circuit-type *keyword*

Description	Specifies the circuit type as either point-to-point or broadcast
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* circuit-type *keyword*
Tree	circuit-type
Options	• point-to-point This enum describes a point-to-point interface • broadcast This enum describes a broadcast interface
Configurable	True
Platforms	Supported on all platforms

hello-padding *keyword*

Description	Specifies the use of IS-IS Hello PDU padding on the interface
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* hello-padding *keyword*
Tree	hello-padding
Options	• strict Strict padding option. Hello padding is done continuously, regardless of adjacency state or interface type. • 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.

- 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.

- disable

  This enum disables hello PDU padding

Configurable True

Platforms Supported on all platforms

interface-ref

Description Reference to a subinterface

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* interface-ref

Tree interface-ref

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *reference*

Description Reference to a base interface, for example a port or LAG

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* interface-ref interface *reference*

Tree interface

Reference interface name *string*

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subinterface *reference*

Description Reference to a subinterface This requires the base interface to be specified using the interface leaf in this container.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* interface-ref subinterface *reference*

Tree subinterface

Reference interface name *string* subinterface index *number*

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-unicast

Description Enter the ipv4-unicast context

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv4-unicast

Tree ipv4-unicast

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description When set to true, the interface and level supports IPv4 unicast routing

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv4-unicast admin-state *keyword*

Tree admin-state

Default enable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

enable-bfd *boolean*

Description Enable BFD for IPv4

Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv4-unicast enable-bfd *boolean*
Tree	enable-bfd
Default	false
Configurable	True
Platforms	Supported on all platforms

include-bfd-tlv *boolean*

Description	Specifies whether a BFD-enabled TLV is included for IPv4 on this IS-IS interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv4-unicast include-bfd-tlv *boolean*
Tree	include-bfd-tlv
Default	false
Configurable	True
Platforms	Supported on all platforms

ipv6-unicast

Description	Enter the ipv6-unicast context
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv6-unicast
Tree	ipv6-unicast
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	When set to true, the interface and level supports IPv6 unicast routing
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv6-unicast admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True

Platforms	Supported on all platforms

enable-bfd *boolean*

Description	Enable BFD for IPv6
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv6-unicast enable-bfd *boolean*
Tree	enable-bfd
Default	false
Configurable	True
Platforms	Supported on all platforms

include-bfd-tlv *boolean*

Description	Specifies whether a BFD-enabled TLV is included for IPv6 on this IS-IS interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ipv6-unicast include-bfd-tlv *boolean*
Tree	include-bfd-tlv
Default	false
Configurable	True
Platforms	Supported on all platforms

ldp-synchronization

Description	Container with configuration options and state that pertains to the operation of LDP-IGP synchronization on this interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ldp-synchronization
Tree	ldp-synchronization
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

disable

Description	Disable LDP-IGP synchronization procedures on this interface, even if synchronization is enabled globally

Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ldp-synchronization disable
Tree	disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

duration *number*

Description	The length of time that the IGP interface has been in sync or out of sync
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ldp-synchronization duration *number*
Tree	duration
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-of-lib *boolean*

Description	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. This overrides the global/instance level setting.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ldp-synchronization end-of-lib *boolean*
Tree	end-of-lib
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hold-down-timer *number*

Description	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. This overrides the global/instance level setting.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ldp-synchronization hold-down-timer *number*

Tree	hold-down-timer
Range	1 to 1800
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sync-state *keyword*

Description	The current state of the interface with respect to LDP-IGP sync
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* ldp-synchronization sync-state *keyword*
Tree	sync-state
Options	• wait-for-LDP-adjacency 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 aadveertised 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
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

level level-number *number*

Description	List of IS-IS levels supported by this interface
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number*

Tree	level
Configurable	True
Platforms	Supported on all platforms
Max. Elements	2

level-number *number*

Description	Specifies the IS-IS protocol level to which these attributes are applied.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number*
Range	1 to 2
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Container for specifying authetication options that apply to the IS-IS instance.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* authentication
Tree	authentication
Configurable	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* interface interface-name *string* level level-number *number* 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* interface interface-name *string* level level-number *number* 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 athentication 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* interface interface-name *string* level level-number *number* authentication hello-authentication generate *boolean*
Tree	generate
Configurable	True
Platforms	Supported on all platforms

key

Description	Container to specify the secret key and crypto algorithm to use for the authentication of Hello PDUs on this interface
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* authentication key
Tree	key
Configurable	True
Platforms	Supported on all platforms

auth-password *string*

Description The secret key to use for authentication of Hello PDUs

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* authentication key auth-password *string*

Tree auth-password

Configurable True

Platforms Supported on all platforms

crypto-algorithm *keyword*

Description The cryptographic algorithm used with the keying material to secure the messages.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* authentication key crypto-algorithm *keyword*

Tree crypto-algorithm

Options

- cleartext

  The authentication-key is encoded in plaintext.

- hmac-md5

  The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).

- 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).

Configurable True

Platforms Supported on all platforms

keychain *reference*

Description Specifies a keychain to use for the authentication of Hello PDUs on this interface.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* authentication keychain *reference*

Tree keychain

Reference system authentication keychain name *string*

Configurable	True
Platforms	Supported on all platforms

disable *boolean*

Description	Disable the Level for the interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* disable *boolean*
Tree	disable
Default	false
Configurable	True
Platforms	Supported on all platforms

ipv6-unicast-metric *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* ipv6-unicast-metric *number*
Tree	ipv6-unicast-metric
Range	0 to 16777215
Configurable	True
Platforms	Supported on all platforms

metric *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* metric *number*
Tree	metric
Range	0 to 16777215
Configurable	True
Platforms	Supported on all platforms

priority *number*

Description	ISIS neighbor priority for becoming Designated IS (LAN hello PDU only).
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* priority *number*
Tree	priority
Range	0 to 127
Default	64
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Interface per level statistics
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

pdu pdu-name *keyword*

Description	List of PDUs processed by the IS-IS instance since the IS-IS manager restarted
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* statistics pdu pdu-name *keyword*
Tree	pdu
Configurable	False
Platforms	Supported on all platforms

pdu-name *keyword*

Description	The PDU type that was processed
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* statistics pdu pdu-name *keyword*
Options	• LSP Link State PDU

- IIH

  IS-to-IS Hello PDU
- CSNP

  Complete Sequence Number PDU
- PSNP

  Partial Sequence Number PDU
- Unknown

  Unknown PDU type

Configurable 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
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* statistics pdu pdu-name *keyword* sent *number*
Tree	sent
Default	0
Configurable	False
Platforms	Supported on all platforms

timers

Description	Enter the timers context
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* timers
Tree	timers
Configurable	True
Platforms	Supported on all platforms

hello-interval *number*

Description	ISIS hello-interval value. The default is 3 seconds on Designated IS interfaces and 9 seconds for non-DIS and p2p interfaces
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* timers hello-interval *number*
Tree	hello-interval
Range	1 to 20000
Default	9
Units	seconds

Configurable	True
Platforms	Supported on all platforms

hello-multiplier *number*

Description	ISIS hello-multiplier value. 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. 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 reset. If the neighbor does not receive a Hello within the hold time, it brings the adjacency down.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* level level-number *number* timers hello-multiplier *number*
Tree	hello-multiplier
Range	2 to 100
Default	3
Configurable	True
Platforms	Supported on all platforms

oper-state *keyword*

Description	The operational state of the IS-IS interface. This simply tracks the operational state of the subinterface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* 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.

Configurable False

Platforms Supported on all platforms

passive *boolean*

Description 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.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* passive *boolean*

Tree passive

Default false

Configurable True

Platforms Supported on all platforms

segment-routing

Description Container with interface-specific segment routing options

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* segment-routing

Tree segment-routing

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls

Description SR-MPLS interface options

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* segment-routing mpls

Tree mpls

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-adjacency-sid

Description The IPv4 adjacency SID associated with the interface

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* segment-routing mpls ipv4-adjacency-sid

Tree ipv4-adjacency-sid

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv4-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.

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

programmed-sids label-value *number*

Description The list of IPv4 adjacency SIDs that have been programmed in association with this interface

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*

Tree programmed-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-value *number*

Description The adjacency SID represented by the MPLS label value.

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*

Range 16 to 1048575

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-level *keyword*

Description The level of the adjacency that is formed.

Only populated for dynamic adjacency SIDs on broacast interfaces.

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* adjacency-level *keyword*

Tree adjacency-level

Default L1L2

Options

- L1

  This enum describes ISIS level 1

- L2

  This enum describes ISIS level 2

- L1L2

  This enum describes ISIS level 1-2

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

programmed-sids label-value *number*

Description The list of IPv4 adjacency SIDs that have been programmed in association with this interface

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* segment-routing mpls ipv6-adjacency-sid programmed-sids label-value *number*

Tree programmed-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-value *number*

Description The adjacency SID represented by the MPLS label value.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* segment-routing mpls ipv6-adjacency-sid programmed-sids label-value *number*

Range 16 to 1048575

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-level *keyword*

Description The level of the adjacency that is formed.

Only populated for dynamic adjacency SIDs on broacast interfaces.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* segment-routing mpls ipv6-adjacency-sid programmed-sids label-value *number* adjacency-level *keyword*

Tree adjacency-level

Default L1L2

Options

- L1

  This enum describes ISIS level 1

- L2

  This enum describes ISIS level 2

- L1L2

  This enum describes ISIS level 1-2

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-adjacency-sid programmed-sids label-value *number* neighbor-system-id *string*

Tree	neighbor-system-id
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-adjacency-sid static *number*
Tree	static
Range	16 to 1048575
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Description	Number of times an adjacency state change has occurred on this circuit(summed across all adjacencies).
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics adjacency-changes *number*
Tree	adjacency-changes
Default	0
Configurable	False
Platforms	Supported on all platforms

adjacency-number *number*

Description	Number of adjacencies on this circuit.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics adjacency-number *number*
Tree	adjacency-number
Default	0
Configurable	False
Platforms	Supported on all platforms

area-address-mismatches *number*

Description	Number of times an IS-IS L1 hello was received on this circuit with a area address field different from that for this system
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics area-address-mismatches *number*
Tree	area-address-mismatches
Default	0
Configurable	False
Platforms	Supported on all platforms

authentication-failures *number*

Description	Number of times an IS-IS control PDU with the correct auth type has failed to pass authentication validation on the interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics authentication-failures *number*
Tree	authentication-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

authentication-type-failures *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics authentication-type-failures *number*
Tree	authentication-type-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

designated-is-changes *number*

Description	Number of times the Designated IS has changed on this circuit.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics designated-is-changes *number*

Tree	designated-is-changes
Default	0
Configurable	False
Platforms	Supported on all platforms

max-area-address-mismatches *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics max-area-address-mismatches *number*
Tree	max-area-address-mismatches
Default	0
Configurable	False
Platforms	Supported on all platforms

rejected-adjacencies *number*

Description	Number of times an adjacency has been rejected on this circuit.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics rejected-adjacencies *number*
Tree	rejected-adjacencies
Default	0
Configurable	False
Platforms	Supported on all platforms

system-id-length-mismatches *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* statistics system-id-length-mismatches *number*
Tree	system-id-length-mismatches
Default	0
Configurable	False
Platforms	Supported on all platforms

timers

Description	Enter the timers context
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* timers
Tree	timers
Configurable	True
Platforms	Supported on all platforms

csnp-interval *number*

Description	The interval, specified in seconds, at which periodic CSNP packets should be transmitted by the local IS on this interface.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* timers csnp-interval *number*
Tree	csnp-interval
Range	1 to 65535
Default	10
Units	seconds
Configurable	True
Platforms	Supported on all platforms

lsp-pacing-interval *number*

Description	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. The burst interval is 100 ms if the lsp-pacing-interval < 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. If a value of 0 is configured, no LSPs are sent from the interface. The default pacing interval of 100 milliseconds means that a maximum of 10 LSPs are sent in a burst every second.
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* timers lsp-pacing-interval *number*
Tree	lsp-pacing-interval
Range	0 to 100000

Default	100
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

trace-options

Description	Interface level debug trace options for IS-IS
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* trace-options
Tree	trace-options
Configurable	True
Platforms	Supported on all platforms

trace *keyword*

Description	List of tracing options
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* trace-options trace *keyword*
Tree	trace
Options	• adjacencies • 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
Configurable	True
Platforms	Supported on all platforms

weighted-ecmp

Description Enter the weighted-ecmp context

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* weighted-ecmp

Tree weighted-ecmp

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

load-balancing-weight *(number | keyword)*

Description The load-balancing weight of the interface, which applies when weighted ECMP is enabled and the interface is part of a multipath set.

Context network-instance name *string* protocols isis instance name *string* interface interface-name *string* weighted-ecmp load-balancing-weight *(number | keyword)*

Tree load-balancing-weight

Range 1 to 4294967295

Default auto

Options

- auto

  Load-balancing weight is based on the bandwidth of the parent interface (port or LAG)

- none

  The interface should not participate in weighted ECMP

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-unicast

Description Enables/disables IPv4 routing in this ISIS instance.

Context network-instance name *string* protocols isis instance name *string* ipv4-unicast

Tree ipv4-unicast

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description When set to true, the IS-IS instance supports IPv4 unicast routing

Context network-instance name *string* protocols isis instance name *string* ipv4-unicast admin-state *keyword*

Tree admin-state

Default enable

Options
- enable
- disable

Configurable True

Platforms Supported on all platforms

ipv6-unicast

Description Enables/disables IPv6 routing in this ISIS instance.

Context network-instance name *string* protocols isis instance name *string* ipv6-unicast

Tree ipv6-unicast

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description When set to true, the IS-IS instance supports IPv6 unicast routing

Context network-instance name *string* protocols isis instance name *string* ipv6-unicast admin-state *keyword*

Tree admin-state

Default enable

Options
- enable
- disable

Configurable True

Platforms Supported on all platforms

multi-topology *boolean*

Description When set to true, IS-IS multi-topology TLVs are used for IPv6 routing and support for native IPv6 TLVs is disabled.

Context	network-instance name *string* protocols isis instance name *string* ipv6-unicast multi-topology *boolean*
Tree	multi-topology
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ldp-synchronization

Description	Enable LDP-IGP synchronization procedures on all P2P interfaces and all LAN interfaces with a single adjancency, except on interfaces where the functionality is explicitly disabled.
Context	network-instance name *string* protocols isis instance name *string* ldp-synchronization
Tree	ldp-synchronization
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-of-lib *boolean*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* ldp-synchronization end-of-lib *boolean*
Tree	end-of-lib
Default	false
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hold-down-timer *number*

Description	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.

Context	network-instance name *string* protocols isis instance name *string* ldp-synchronization hold-down-timer *number*
Tree	hold-down-timer
Range	1 to 1800
Default	60
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

level level-number *number*

Description	List of IS-IS levels supported by this IS (router)
Context	network-instance name *string* protocols isis instance name *string* level level-number *number*
Tree	level
Configurable	True
Platforms	Supported on all platforms
Max. Elements	2

level-number *number*

Description	Specifies the IS-IS protocol level to which these attributes are applied.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number*
Range	1 to 2
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Container for specifying authetication 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.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* authentication
Tree	authentication

Configurable	True
Platforms	Supported on all platforms

csnp-authentication

Description	Container with options to control the authentication of CSNP PDUs
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* authentication csnp-authentication
Tree	csnp-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 csnp-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 athentication 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 csnp-authentication generate *boolean*
Tree	generate
Configurable	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* level level-number *number* 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* level level-number *number* 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 athentication 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 hello-authentication generate *boolean*
Tree	generate
Configurable	True
Platforms	Supported on all platforms

key

Description	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
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* authentication key
Tree	key
Configurable	True
Platforms	Supported on all platforms

auth-password *string*

Description	The secret key to use for authentication of PDUs
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* authentication key auth-password *string*
Tree	auth-password
Configurable	True
Platforms	Supported on all platforms

crypto-algorithm *keyword*

Description	The cryptographic algorithm used with the keying material to secure the messages.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* authentication key crypto-algorithm *keyword*
Tree	crypto-algorithm
Options	• cleartext The authentication-key is encoded in plaintext.

- hmac-md5

  The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104).

- 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).

Configurable True

Platforms Supported on all platforms

keychain *reference*

Description Specifies a keychain to use for the authentication of PDUs when the behavior is controlled at this level of the configuration hierarchy.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* authentication keychain *reference*

Tree keychain

Reference system authentication keychain name *string*

Configurable True

Platforms Supported on all platforms

lsp-authentication

Description Container with options to control the authentication of Link State PDUs

Context network-instance name *string* protocols isis instance name *string* level level-number *number* authentication lsp-authentication

Tree lsp-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 lsp-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 athentication 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 lsp-authentication generate *boolean*

Tree generate

Configurable 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 athentication 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*

Tree generate

Configurable True

Platforms Supported on all platforms

link-state-database

Description State representation of the ISIS LSDB.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database

Tree link-state-database

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsp lsp-id *string*

Description List of LSPs in the LSDB.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string*

Tree lsp

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsp-id *string*

Description 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.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string*

String Length 20

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

checksum *number*

Description Checksum of the LSP.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* checksum *number*

Tree checksum

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description LSP Type-Block flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* flags *keyword*

Tree flags

Options

- partition-repair

  When set, the originator supports partition repair.
- attached-error

  When set, the originator is attached to another area using the referred metric.
- attached-expense

  When set, the originator is attached to another area using the referred metric.
- attached-delay

  When set, the originator is attached to another area using the referred metric.
- attached-default

  When set, the originator is attached to another area using the referred metric.
- overload

  When set, the originator is overloaded, and must be avoided in path calculation.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id-length *number*

Description Length of the ID field of NSAP addresses and NETs used in this routing domain.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* id-length *number*

Tree id-length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

is-type *number*

Description Type of neighboring system.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* is-type *number*

Tree	is-type
Range	1 to 3
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum-area-addresses *number*

Description	Number of area addresses permitted for this ISs area 0 indicates the IS only supports three area addresses (by default). Any number inclusive of 1 and 254 indicates the number of areas allowed.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* maximum-area-addresses *number*
Tree	maximum-area-addresses
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

pdu-length *number*

Description	Total length of the LSP.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* pdu-length *number*
Tree	pdu-length
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

pdu-type *keyword*

Description	Link State PDU type.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* pdu-type *keyword*
Tree	pdu-type
Options	• level-1

This enum describes ISIS level 1 PDU.

- level-2

  This enum describes ISIS level 2 PDU.

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remaining-lifetime *number*

Description	Remaining lifetime in seconds before the LSP expiration.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* remaining-lifetime *number*
Tree	remaining-lifetime
Units	seconds
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sequence-number *number*

Description	Sequence number of the LSP.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* sequence-number *number*
Tree	sequence-number
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tlvs

Description	This container defines Link State PDU State TLVs.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs
Tree	tlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tlv type *identityref*

Description List of TLV types in the LSDB for the specified LSP.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

Tree tlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of TLV being described. The type of TLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

Options

- area-addresses

  ISIS TLV 1
- iis-neighbors

  ISIS TLV 2
- instance-id

  ISIS TLV 7

  An Instance Identifier (IID) to uniquely identify an IS-IS instance. When the IID = 0, the list of supported ITIDs MUST NOT be present. An IID-TLV with IID = 0 MUST NOT appear in an SNP or LSP. When the TLV appears (with a non-zero IID) in an SNP or LSP, exactly one ITID. MUST be present indicating the topology with which the PDU is associated. If no ITIDs or multiple ITIDs are present or the IID is zero, then the PDU MUST be ignored
- authentication

  ISIS TLV 10
- purge-oi

  ISIS TLV 13

If an IS generates a purge, it SHOULD include this TLV in the purge with its own system ID. If an IS receives a purge that does not include this TLV, then it SHOULD add this TLV with both its own system ID and the system ID of the IS from which it received the purge. This allows ISs receiving purges to log the system ID of the originator, or the upstream source of the purge.

- lsp-buffer-size

  ISIS TLV 14. The maximum MTU that the advertising system can receive, expressed in bytes.

- extended-is-reachability

  ISIS TLV 22. An extended IS reachability TLV that has a different data structure to TLV 2 that introduces the use of sub-TLV object-group.

- is-neighbor-attribute

  ISIS TLV 23. Identical in format to TLV 22 and included in Original LSPs or Extended LSPs. Regardless of the type of LSP in which the TLVs appear, the information pertains to the neighbor relationship between the Originating System and the IS identified in the TLV

- isis-alias-id

  ISIS TLV 24. IS-Alias TLV which extension-capable ISs to recognize the Originating System of an Extended LSP set. It identifies the Normal system-id of the Originating System

- ipv4-internal-reachability

  ISIS TLV 128. TLV defines IP addresses within the routing domain reachable directly via one or more interfaces on this Intermediate system

- nlpid

  ISIS TLV 129. TLV defines the set Network Layer Protocol Identifiers for Network Layer protocols that this Intermediate System is capable of relaying

- ipv4-external-reachability

  ISIS TLV 130. TLV defines IP addresses outside the routing domain reachable via interfaces on this Intermediate system. This is permitted to appear multiple times, and in an LSP with any LSP number. However, this field must not appear in pseudonode LSPs

- ipv4-interface-addresses

  ISIS TLV 132. The IP address of one or more interfaces corresponding to the SNPAs enabled on this Intermediate system (i.e., one or more IP addresses of this router). This is permitted to appear multiple times, and in an LSP with any LSP number.

- ipv4-te-router-id

  ISIS TLV 134. Traffic Engineering router ID TLV that contains the 4-octet router ID of the router originating the LSP

- extended-ipv4-reachability

ISIS TLV 135. Extended IP reachability TLV that provides for a 32-bit metric and adds one bit to indicate that a prefix has been redistributed _ down_ in the hierarchy

- dynamic-name

  ISIS TLV 137. The Dynamic hostname TLV is optional. This TLV may be present in any fragment of a non-pseudonode LSP. The value field identifies the symbolic name of the router originating the LSP. This symbolic name can be the FQDN for the router, it can be a subset of the FQDN, or it can be any string operators want to use for the router.

- ipv4-srlg

  ISIS TLV 138. IPv4 Shared Risk Link Group TLV

- ipv6-srlg

  ISIS TLV 139. IPv6 Shared Risk Link Group

- ipv6-te-router-id

  ISIS TLV 140. The IPv6 TE Router ID TLV contains a 16-octet IPv6 address. A stable global IPv6 address MUST be used, so that the router ID provides a routable address, regardless of the state of a node's interfaces. If a router does not implement traffic engineering, it MAY include or omit the IPv6 TE Router ID TLV. If a router implements traffic engineering for IPv6, it MUST include this TLV in its LSP. This TLV MUST NOT be included more than once in an LSP.

- mt-isn

  ISIS TLV 222. TLV is aligned with extended IS reachability TLV type 22 beside an additional two bytes in front at the beginning of the TLV that. indicate MT membership.

- mt-is-neighbor-attribute

  ISIS TLV 223. It is identical in format to TLV 222. In the event that there is a need to advertise in Extended LSPs such information associated with neighbors of the Originating System, it is necessary to define new TLVs to carry the sub-TLV information.

- multi-topology

  ISIS TLV 229. This MT TLV can advertise up to 127 MTs. It is announced in IIHs and LSP fragment 0, and can occur multiple times. The resulting MT set SHOULD be the union of all the MT TLV occurrences in the packet. Any other IS-IS PDU occurrence of this TLV MUST be ignored. Lack of MT TLV in hellos and fragment zero LSPs MUST be interpreted as participation of the advertising interface or router in MT ID #0 only. If a router advertises MT TLV, it has to advertise all the MTs it participates in, specifically including topology ID #0 also.

- ipv6-interface-addresses

  ISIS TLV 232. IPv6 Interface Address TLV that maps directly to the IP Interface Address TLV in [RFC1195]. We necessarily modify the contents to be 0-15 16-octet IPv6 interface addresses instead of 0-63 4-octet IPv4 interface addresses

- mt-ipv4-reachability

  ISIS TLV 235. TLV is aligned with extended IP reachability TLV type 135 beside an additional two bytes in front to indicate MT membership

- ipv6-reachability

  ISIS TLV 236. The IPv6 Reachability TLV describes network reachability through the specification of a routing prefix, metric information, a bit to indicate if the prefix is being advertised down from a higher level, a bit to indicate if the prefix is being distributed from another routing protocol, and OPTIONALLY the existence of Sub-TLVs to allow for later extension.

- mt-ipv6-reachability

  ISIS TLV 237. TLV is aligned with IPv6 Reachability TLV type 236 beside an additional two bytes in front to indicate MT membership.

- router-capability

  ISIS TLV 242. IS-IS TLV named CAPABILITY, formed of multiple sub-TLVs, which allows a router to announce its capabilities within an IS-IS level or the entire routing domain.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

area-address

Description This container defines TLV 1.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* area-address

Tree area-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Area adress(es) of the IS. Set of manual area addresses of this IS.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* area-address address *string*

Tree address

String Length 2 to 38

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

authentication

Description This container defines authentication information of the node.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* authentication

Tree authentication

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

authentication-key *string*

Description Authentication key to be used.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* authentication authentication-key *string*

Tree authentication-key

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

crypto-type *keyword*

Description Enter the crypto-type context

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* authentication crypto-type *keyword*

Tree crypto-type

Options

- cleartext
- crypto
- hmac-md5

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-ipv4-reachability

Description	This container defines list of IPv4 extended reachability information.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability
Tree	extended-ipv4-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefixes

Description	This container describes IS prefixes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes
Tree	prefixes
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix prefix *string*

Description	This list describes IPv4 extended prefixes and attributes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string*
Tree	prefix
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description IPv4 prefix contained within extended reachability TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* metric *number*

Tree metric

Range 0 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

s-bit *boolean*

Description The Sub-TLV present bit. If UNSET, the octets of Sub-TLVs are not present. Otherwise, the bit is set and the octet following the prefix will contain the length of the Sub-TLV portion of the structure.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* s-bit *boolean*

Tree s-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS prefix sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs

Tree subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description List of subTLV types in the LSDB for the specified TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref*

Tree subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags

Description This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* flags

Tree flags

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Additional prefix reachability flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* flags flags *keyword*

Tree flags

Options

- external-flag

  External prefix flag. Set if the prefix has been redistributed from another protocol. This includes the case where multiple virtual routers are supported and the source of the redistributed prefix is another IS-IS instance.

- readvertisement-flag

  Readvertisement flag. Set when the prefix has been leaked from one level to another (upwards or downwards).

- node-flag

  Node flag. Set when the prefix identifies the advertising router, i.e., the prefix is a host prefix advertising a globally reachable address typically associated with a loopback address.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* flags type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-source-router-id

Description This container defines sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id

Tree ipv4-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv4 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-source-router-id

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id

Tree ipv6-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv6 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sids

Description This container defines segment routing extensions for prefixes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids

Tree prefix-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sid value *number*

Description Prefix Segment-ID list. IGP-Prefix Segment is an IGP segment attached to an IGP prefix. An IGP-Prefix Segment is global (unless explicitly advertised otherwise) within the SR/IGP domain.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Tree prefix-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description IGP Prefix-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

Description Prefix-SID algorithm to be used for path computation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* algorithm *number*

Tree algorithm

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Prefix Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* flags *keyword*

Tree flags

Options

- readvertisement

  Readvertisment flag. When set, the prefix to which this Prefix-SID is attached, has been propagated by the router either from another level or from redistribution.

- node

  Node flag. When set, the Prefix-SID refers to the router identified by the prefix. Typically, the N-Flag is set on Prefix-SIDs attached to a router loopback address.

- no-php

  Penultimate-Hop-Popping flag. When set, then the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.

- explicit-null

  Explicit-Null flag. When set, any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID having an Explicit-NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet.

- value

  Value flag. When set, the Prefix-SID carries a value (instead of an index). By default the flag is UNSET.

- local

  Local flag. When set, the value/index carried by the Prefix-SID has local significance. By default the flag is UNSET.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag

Description This container defines sub-TLV 1.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag

Tree tag

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag32 *number*

Description List of 32-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag tag32 *number*

Tree tag32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64

Description This container defines sub-TLV 2.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag64

Tree tag64

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64 *number*

Description List of 64-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag64 tag64 *number*

Tree tag64

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description This container describes undefined ISIS TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* undefined-subtlvs

Tree undefined-subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description Sub-TLVs that are not defined in the model or not recognised by system.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number*

Tree undefined-subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description TLV Type.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

up-down *boolean*

Description The up/down bit. Set if a prefix is advertised from a higher level to a lower level (e.g., level 2 to level 1), indicating that the prefix has traveled down the hierarchy. Prefixes that have the up/down bit set may only be advertised down the hierarchy, i.e., to lower levels. When a prefix is first injected into IS-IS, the bit is UNSET.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-ipv4-reachability prefixes prefix prefix *string* up-down *boolean*

Tree up-down

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-is-reachability

Description This container defines list of ISIS extended reachability neighbors.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability

Tree extended-is-reachability

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbors

Description This container describes IS neighbors.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors

Tree neighbors

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor system-id *string*

Description	This list describes ISIS extended neighbors and reachability attributes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description	System-id of the neighbor.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string*
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instances

Description	This list contains all instances of an adjacency between the originating IS and the remote IS. Multiple instances are used where there are parallel adjacencies between two systems.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances
Tree	instances
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance id *number*

Description	Instance of the TLV to the remote IS neighbor.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number*

Tree instance

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description Unique identifier for the instance of the TLV for the IS neighbor. The instance ID is not required to be consistent across across readvertisements of the LSP.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description Metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* metric *number*

Tree metric

Range 1 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS Neighbor sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs

Tree subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description List of subTLV types in the LSDB for the specified TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Tree subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.
- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.
- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sids

Description This container defines segment routing adjacency SIDs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids

Tree adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Tree adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

  Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group

Description This container defines sub-TLV 3.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group *number*

Description The administrative group sub-TLV contains a 4-octet bit mask assigned by the network administrator

Each set bit corresponds to one administrative group assigned to the interface. By convention, the least significant bit is referred to as group 0, and the most significant bit is referred to as group 31.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group admin-group *number*

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

available-bandwidth

Description This container defines unidirectional lavailable bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth

Tree available-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The available bandwidth on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, available bandwidth is defined to be residual bandwidth minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraints

Description This container defines bandwidth-constraints. For DS-TE, the existing Maximum Reservable link bandwidth parameter is retained, but its semantics is generalized and interpreted as the aggregate bandwidth constraint across all Class-Types

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints

Tree bandwidth-constraints

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraint model-id *number*

Description List of the Bandwidth Constraints sub-TLV instances present in the TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*

Tree bandwidth-constraint

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

model-id *number*

Description Identifier for the Bandwidth Constraints Model currently in use by the LSR initiating the IGP advertisement.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraints

Description Constraints contained within the Bandwidth Constraints sub-TLV

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints

Tree constraints

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint constraint-id *number*

Description List of the constraints within the Bandwidth Constraints sub-TLV. The BC0 level is indicated by the constraint-id leaf being set to 0, with BCN being indicated by constraint-id N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Tree constraint

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint-id *number*

Description Unique reference for the bandwidth constraint level. BC0 is indicated by this leaf being set to zero, with BCN represented by this leaf being set to N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth constraint, expressed as a 32-bit IEEE floating point number expressed in bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number* bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group

Description This container defines sub-TLV 14.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group

Tree extended-admin-group

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group *number*

Description	The extended-admin-group sub-TLV is used in addition to the Administrative Groups when it is desirable to make more than 32 colors available for advertisement in a network.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group extended-admin-group *number*
Tree	extended-admin-group
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address

Description	This container defines sub-TLV 6.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address
Tree	ipv4-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description	A 4-octet IPv4 address for the interface described by the (main) TLV. This sub-TLV can occur multiple times.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address address *string*
Tree	address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address

Description This container defines sub-TLV 8.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address

Tree ipv4-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A single IPv4 address for a neighboring router on this link. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address

Tree ipv6-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for the interface described by the containing Extended IS Reachability TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address

Description This container defines sub-TLV 13.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address

Tree ipv6-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for a neighboring router on the link described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sids

Description This container defines segment routing LAN adjacency SIDs

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids

Tree lan-adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Tree lan-adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description LAN Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with LAN-Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

  Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-id *string*

Description System ID of the neighbor associated with the LAN- Adj-Segment-ID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances

instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* neighbor-id *string*

Tree neighbor-id

String Length 14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-attributes

Description This container defines link-attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes

Tree link-attributes

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-protection *keyword*

Description Link local-protection attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances

instance id *number* subtlvs subtlv type *identityref* link-attributes local-protection *keyword*

Tree local-protection

Options

- local-protection

  If set, local protection is available for the link.

- link-excluded

  If set, the link is excluded from local protection.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay

Description This container defines unidirectional link delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay

Tree link-delay

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay value (in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay-variation

Description This container defines unidirectional link delay variation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation

Tree link-delay-variation

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-id

Description This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id

Tree link-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local *number*

Description The value field of this sub-TLV contains 4 octets of Link Local Identifier followed by 4 octets of Link Remote Identifier.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id local *number*

Tree local

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote *number*

Description If the Link Remote Identifier is unknown, it is set to 0.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id remote *number*

Tree remote

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss

Description This container defines unidirectional link loss delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss *number*

Description Link packet loss as a percentage of the total traffic sent over a configurable interval. The basic unit is 0.000003%, where (2^24 - 2) is 50.331642%. This value s the highest packet-loss percentage that can be expressed (the assumption being that precision is more important on high-speed links than the ability to advertise loss rates greater than this, and that high- peed links with over 50% loss are unusable). Therefore, measured values that are larger than the field maximum SHOULD be encoded as the maximum value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss link-loss *number*

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-protection-type

Description ISIS LSDB parameters relating to the type of link protection offered.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type

Tree link-protection-type

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *keyword*

Description Link protection capabilities.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type type *keyword*

Tree type

Options

- extra-traffic

  If set the link has extra traffic protection. If the link is of type Extra Traffic, it means that the link is protecting another link or links. The LSPs on a link of this type will be lost if any of the links it is protecting fail.

- unprotected

  If set, the link is unprotected. If the link is of type Unprotected, it means that there is no other link protecting this link. The LSPs on a link of this type will be lost if the link fails.

- shared

  If set, the link has shared protection. If the link is of type Shared, it means that there are one or more disjoint links of type Extra Traffic that are protecting this link. These Extra Traffic links are shared between one or more links of type Shared.

- one-one

  If set, the link has dedicated 1:1 protection. If the link is of type Dedicated 1:1, it means that there is one dedicated disjoint link of type Extra Traffic that is protecting this link.

- plus-one

  If set, the link has dedicated 1+1 protection. If the link is of type Dedicated 1+1, it means that a dedicated disjoint link is protecting this link. However, the protecting link is not advertised in the link state database and is therefore not available for the routing of LSPs.

- enhanced

  If set the link has enhanced protection. If the link is of type Enhanced, it means that a protection scheme that is more reliable than Dedicated 1+1, e.g., 4 fiber BLSR/MS-SPRING, is being used to protect this link.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-link-bandwidth

Description This container defines sub-TLV 9.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth

Tree max-link-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The maximum bandwidth that can be used on this link in this direction (from the system originating the LSP to its neighbors). It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-reservable-link-bandwidth

Description	This container defines sub-TLV 10.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth
Tree	max-reservable-link-bandwidth
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The maximum amount of bandwidth that can be reserved in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth bandwidth *binary*
Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-max-link-delay

Description	This container defines min/max link delay.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay

Tree min-max-link-delay

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-delay *number*

Description Maximum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay max-delay *number*

Tree max-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-delay *number*

Description Minimum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay min-delay *number*

Tree min-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

residual-bandwidth

Description This container defines unidirectional residual bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth

Tree residual-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description Residual bandwidth on a link,forwarding adjacency [RFC4206], or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, residual bandwidth is defined to be the Maximum Bandwidth [RFC5305] minus the bandwidth currently allocated to RSVP-TE label switched paths. For a bundled link, residual bandwidth is defined to be the sum of the component link residual bandwidths.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

te-default-metric

Description	This container defines sub-TLV 18.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric
Tree	te-default-metric
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description	This metric is administratively assigned and can be used to present a differently weighted topology to traffic engineering SPF calculations. To preclude overflow within a traffic engineering SPF implementation, all metrics greater than or equal to MAX_PATH_METRIC SHALL be considered to have a metric of MAX_PATH_METRIC.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric metric *number*
Tree	metric
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unconstrained-lsp

Description	This container defines sub-TLV 23.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp

Tree unconstrained-lsp

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

count *number*

Description Unconstrained TE LSP count(TE Label Switched Paths (LSPs) signalled with zero bandwidth).

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp count *number*

Tree count

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.
- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.
- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unreserved-bandwidth

Description	This container defines unreserved-bandwidth. The units are bytes per second.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth
Tree	unreserved-bandwidth
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

setup-priority priority *number*

Description	Enter the setup-priority list instance
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*
Tree	setup-priority
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

priority *number*

Description	Setup priority level of 0 through 7 to be used by Unreserved Bandwidth sub-TLV 11.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*
Range	0 to 7
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The amount of bandwidth reservable in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It contains eight 32-bit IEEE floating point numbers(one for each priority). The units are bytes (not bits!) per second. The values correspond to the bandwidth that can be reserved with a setup priority of 0 through 7, arranged in increasing order with priority 0 occurring at the start of the sub-TLV, and priority 7 at the end of the sub-TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number* bandwidth *binary*
Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

utilized-bandwidth

Description	This container defines unidirectional utilized bandwidth.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth
Tree	utilized-bandwidth
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The bandwidth utilization on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, bandwidth utilization represents the actual utilization

of the link (i.e., as measured by the advertising node). For a bundled link, bandwidth utilization is defined to be the sum of the component link bandwidth utilizations.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description This container describes undefined ISIS TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs

Tree undefined-subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description Sub-TLVs that are not defined in the model or not recognised by system.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Tree undefined-subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description TLV Type.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* extended-is-reachability neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hostname

Description This container defines TLV 137.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* hostname

Tree hostname

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hostname *string*

Description Name of the node.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* hostname hostname *string*

Tree hostname

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-ids

Description	This container defines ISIS Instance Identifier TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* instance-ids
Tree	instance-ids
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-id instance-id *number*

Description	A list of instance IDs received within TLV 7 within an IS-IS LSP. In the case that more than one instance of TLV 7 is included in the LSP, the instance IDs specified within the instances are concatenated within this list.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* instance-ids instance-id instance-id *number*
Tree	instance-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-id *number*

Description	An Instance Identifier (IID) to uniquely identify an IS-IS instance. When the IID = 0, the list of supported ITIDs MUST NOT be present. An IID-TLV with IID = 0 MUST NOT appear in an SNP or LSP. When the TLV appears (with a non-zero IID) in an SNP or LSP, exactly one ITID. MUST be present indicating the topology with which the PDU is associated. If no ITIDs or multiple ITIDs are present or the IID is zero, then the PDU MUST be ignored.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* instance-ids instance-id instance-id *number*
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

topology-id *number*

Description	Instance-Specific Topology Identifiers (ITIDs).
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* instance-ids instance-id instance-id *number* topology-id *number*
Tree	topology-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-external-reachability

Description	This container defines list of IPv4 external reachability information.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability
Tree	ipv4-external-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefixes

Description	This container describes IS neighbors.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes
Tree	prefixes
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix prefix *string*

Description IPv4 external prefixes and reachability attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string*

Tree prefix

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description IPv4 prefix contained within reachability TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric

Description This container defines ISIS Default Metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* default-metric

Tree default-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Default-Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

ipv4-external-reachability prefixes prefix prefix *string* default-metric flags *keyword*

Tree flags

Options

- internal

  When set to zero, indicates internal metrics.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS default metric value

This is a metric understood by every Intermediate system in the domain. Each circuit shall have a positive integral value assigned for this metric. The value may be associated with any objective function of the circuit, but by convention is intended to measure the capacity of the circuit for handling traffic, for example, its throughput in bits-per-second. Higher values indicate a lower capacity.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* default-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay-metric

Description This container defines the ISIS delay metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* delay-metric

Tree delay-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Delay Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* delay-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS delay metric value

This metric measures the transit delay of the associated circuit. It is an optional metric, which if assigned to a circuit shall have a positive integral value. Higher values indicate a longer transit delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* delay-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

error-metric

Description This container defines the ISIS error metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* error-metric

Tree error-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description IS-IS error metric flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* error-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS error metric value

This metric measures the residual error probability of the associated circuit. It is an optional metric, which if assigned to a circuit shall have a non-zero value. Higher values indicate a larger probability of undetected errors on the circuit.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* error-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

expense-metric

Description This container defines the ISIS expense metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* expense-metric

Tree expense-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Expense Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* expense-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS expense metric value

This metric measures the monetary cost of utilising the associated circuit. It is an optional metric, which if assigned to a circuit shall have a positive integral value1). Higher values indicate a larger monetary expense.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* expense-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

up-down *boolean*

Description The up/down bit

Set if a prefix is advertised from a higher level to a lower level (e.g., level 2 to level 1), indicating that the prefix has traveled down the hierarchy. Prefixes that have the up/down bit set may only be advertised down the hierarchy, i.e., to lower levels. When a prefix is first injected into IS-IS, the bit is UNSET.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-external-reachability prefixes prefix prefix *string* up-down *boolean*

Tree up-down

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-addresses

Description This container defines TLV 132.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-interface-addresses

Tree ipv4-interface-addresses

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description	IPv4 address(es) of the interface corresponding to the SNPA over which this PDU is to be transmitted.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-interface-addresses address *string*
Tree	address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-internal-reachability

Description	This container defines list of IPv4 internal reachability information.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability
Tree	ipv4-internal-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefixes

Description	This container describes IS prefixes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes
Tree	prefixes
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix prefix *string*

Description IPv4 prefixes and internal reachability attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string*

Tree prefix

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description IPv4 prefix contained within reachability TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric

Description This container defines ISIS Default Metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* default-metric

Tree default-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Default-Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

ipv4-internal-reachability prefixes prefix prefix *string* default-metric flags *keyword*

Tree flags

Options

- internal

  When set to zero, indicates internal metrics.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS default metric value

This is a metric understood by every Intermediate system in the domain. Each circuit shall have a positive integral value assigned for this metric. The value may be associated with any objective function of the circuit, but by convention is intended to measure the capacity of the circuit for handling traffic, for example, its throughput in bits-per-second. Higher values indicate a lower capacity.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* default-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay-metric

Description This container defines the ISIS delay metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* delay-metric

Tree delay-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Delay Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* delay-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS delay metric value

This metric measures the transit delay of the associated circuit. It is an optional metric, which if assigned to a circuit shall have a positive integral value. Higher values indicate a longer transit delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* delay-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

error-metric

Description This container defines the ISIS error metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* error-metric

Tree error-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description IS-IS error metric flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* error-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS error metric value

This metric measures the residual error probability of the associated circuit. It is an optional metric, which if assigned to a circuit shall have a non-zero value. Higher values indicate a larger probability of undetected errors on the circuit.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* error-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

expense-metric

Description This container defines the ISIS expense metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* expense-metric

Tree expense-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Expense Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* expense-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS expense metric value

This metric measures the monetary cost of utilising the associated circuit. It is an optional metric, which if assigned to a circuit shall have a positive integral value1). Higher values indicate a larger monetary expense.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* expense-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

up-down *boolean*

Description The up/down bit

Set if a prefix is advertised from a higher level to a lower level (e.g., level 2 to level 1), indicating that the prefix has traveled down the hierarchy. Prefixes that have the up/down bit set may only be advertised down the hierarchy, i.e., to lower levels. When a prefix is first injected into IS-IS, the bit is UNSET.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-internal-reachability prefixes prefix prefix *string* up-down *boolean*

Tree up-down

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-srlgs

Description This container defines ISIS SRLG TLV 138.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs

Tree ipv4-srlgs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-srlg instance-number *number*

Description Instance of the IPv4 SRLG TLV

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number*

Tree ipv4-srlg

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-number *number*

Description An arbitrary unsigned 32-bit integer used to disambiguate the instance of TLV 138. The instance identifier is synthesised by the system and may be renumbered for the same SRLG definition in subsequent advertised LSPs if (and only if) the entire list of SRLGs is replaced.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description SRLG flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number* flags *keyword*

Tree flags

Options

- numbered

  When set, the interface is numbered, whereas if unset indicates that the interface is unnumbered.

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address *string*

Description	IPv4 interface address.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number* ipv4-interface-address *string*
Tree	ipv4-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address *string*

Description	IPv4 neighbor address.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number* ipv4-neighbor-address *string*
Tree	ipv4-neighbor-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

psn-number *number*

Description	Pseudonode number if the neighbor is on a LAN interface.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number* psn-number *number*
Tree	psn-number
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

srlg-value *number*

Description List of SRLG values.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number* srlg-value *number*

Tree srlg-value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description Neighbor system ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-srlgs ipv4-srlg instance-number *number* system-id *string*

Tree system-id

String Length 14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-te-router-id

Description This container defines TLV 134.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-te-router-id

Tree ipv4-te-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv4 Traffic Engineering router ID of the node. For traffic engineering, it guarantees that we have a single stable address that can always be referenced in a path that will be reachable from multiple hops away, regardless of the state of the node's interfaces.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv4-te-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-addresses

Description This container defines TLV 232.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-interface-addresses

Tree ipv6-interface-addresses

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description IPv6 interface addresses of the node. MUST contain only the non-link-local IPv6 addresses assigned to the IS.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-interface-addresses address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-reachability

Description This container defines list of IPv6 reachability information.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability

Tree ipv6-reachability

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefixes

Description This container describes IS prefixes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes

Tree prefixes

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix prefix *string*

Description This list defines IPv6 extended prefix attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string*

Tree prefix

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description IPv6 prefix contained within extended reachability TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* metric *number*

Tree metric

Range 0 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

s-bit *boolean*

Description The sub-tlv present bit. If UNSET, the octets of Sub-TLVs are not present. Otherwise, the bit is set and the octet following the prefix will contain the length of the Sub-TLV portion of the structure.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* s-bit *boolean*

Tree s-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS prefix sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs

Tree	subtlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description	List of subTLV types in the LSDB for the specified TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref*
Tree	subtlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description	The type of subTLV being described. The type of subTLV is expressed as a canonical name.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref*
Options	• is-reachability-subtlvs-type Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type. • ip-reachability-subtlvs-type Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type. • router-capability-subtlvs-type Base identity for an ISIS TLV 242 SUB-TLV type.
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags

Description	This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* flags

Tree flags

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Additional prefix reachability flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* flags flags *keyword*

Tree flags

Options

- external-flag

  External prefix flag. Set if the prefix has been redistributed from another protocol. This includes the case where multiple virtual routers are supported and the source of the redistributed prefix is another IS-IS instance.

- readvertisement-flag

  Readvertisement flag. Set when the prefix has been leaked from one level to another (upwards or downwards).

- node-flag

  Node flag. Set when the prefix identifies the advertising router, i.e., the prefix is a host prefix advertising a globally reachable address typically associated with a loopback address.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* flags type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-source-router-id

Description This container defines sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id

Tree ipv4-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv4 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-source-router-id

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id

Tree ipv6-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv6 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the

source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sids

Description This container defines segment routing extensions for prefixes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids

Tree prefix-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sid value *number*

Description Prefix Segment-ID list. IGP-Prefix Segment is an IGP segment attached to an IGP prefix. An IGP-Prefix Segment is global (unless explicitly advertised otherwise) within the SR/IGP domain.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Tree prefix-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description IGP Prefix-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

Description Prefix-SID algorithm to be used for path computation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* algorithm *number*

Tree algorithm

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Prefix Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* flags *keyword*

Tree flags

Options

- readvertisement

  Readvertisment flag. When set, the prefix to which this Prefix-SID is attached, has been propagated by the router either from another level or from redistribution.

- node

  Node flag. When set, the Prefix-SID refers to the router identified by the prefix. Typically, the N-Flag is set on Prefix-SIDs attached to a router loopback address.

- no-php

  Penultimate-Hop-Popping flag. When set, then the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.

- explicit-null

  Explicit-Null flag. When set, any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID having an Explicit-NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet.

- value

  Value flag. When set, the Prefix-SID carries a value (instead of an index). By default the flag is UNSET.

- local

  Local flag. When set, the value/index carried by the Prefix-SID has local significance. By default the flag is UNSET.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag

Description This container defines sub-TLV 1.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag

Tree tag

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag32 *number*

Description List of 32-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag tag32 *number*

Tree tag32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64

Description This container defines sub-TLV 2.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag64

Tree tag64

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64 *number*

Description	List of 64-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* subtlvs subtlv type *identityref* tag64 tag64 *number*
Tree	tag64
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description	This container describes undefined ISIS TLVs.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* undefined-subtlvs
Tree	undefined-subtlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description	Sub-TLVs that are not defined in the model or not recognised by system.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number*
Tree	undefined-subtlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description TLV Type.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

up-down *boolean*

Description The up/down bit. Set if a prefix is advertised from a higher level to a lower level (e.g., level 2 to level 1), indicating that the prefix has traveled down the hierarchy. Prefixes that have the up/down bit set may only be advertised

down the hierarchy, i.e., to lower levels. When a prefix is first injected into IS-IS, the bit is UNSET.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* up-down *boolean*

Tree up-down

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

x-bit *boolean*

Description The external bit. Set when the prefix was distributed into IS-IS from another routing protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-reachability prefixes prefix prefix *string* x-bit *boolean*

Tree x-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-srlgs

Description This container defines ISIS SRLG TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs

Tree ipv6-srlgs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-srlg instance-number *number*

Description Instance of the IPv6 SRLG TLV.

Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number*
Tree	ipv6-srlg
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-number *number*

Description	An arbitrary unsigned 32-bit integer used to disambiguate the instance of TLV 138. The instance identifier is synthesised by the system and may be renumbered for the same SRLG definition in subsequent advertised LSPs if (and only if) the entire list of SRLGs is replaced.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description	IPv6 SRLG flags.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number* flags *keyword*
Tree	flags
Options	• na When set, the IPv6 neighbour address is included, whereas if unset, it is omitted
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address *string*

Description	IPv6 interface address or Link Local Identifier.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number* ipv6-interface-address *string*
Tree	ipv6-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address *string*

Description	IPv6 neighbor address or Link Remote Identifier.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number* ipv6-neighbor-address *string*
Tree	ipv6-neighbor-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

psn-number *number*

Description	Pseudonode number if the neighbor is on a LAN interface.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number* psn-number *number*
Tree	psn-number
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

srlg-value *number*

Description	SRLG values.

Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number* srlg-value *number*
Tree	srlg-value
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description	Neighbor system ID.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-srlgs ipv6-srlg instance-number *number* system-id *string*
Tree	system-id
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-te-router-id

Description	This container defines TLV 140.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-te-router-id
Tree	ipv6-te-router-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description	IPv6 Traffic Engineering router ID of the node. For traffic engineering, it guarantees that we have a single stable address that can always be referenced in a path that will be reachable from multiple hops away, regardless of the state of the node's interfaces.

Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* ipv6-te-router-id router-id *string*
Tree	router-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

is-alias-id

Description	This container defines the IS-Alias TLV which allows extension-capable ISs to recognize the Originating System of an Extended LSP set. It identifies the Normal system-id of the Originating System.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-alias-id
Tree	is-alias-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

alias-id *string*

Description	List of alias ID(s).
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-alias-id alias-id *string*
Tree	alias-id
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

is-reachability

Description	This container describes list of ISIS neighbors and attributes.

Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability
Tree	is-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbors

Description	This container describes IS neighbors.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors
Tree	neighbors
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor system-id *string*

Description	IS reachability neighbor attributes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description	System-ID of IS neighbor.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string*
String Length	14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric

Description This container defines ISIS Default Metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* default-metric

Tree default-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Default-Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* default-metric flags *keyword*

Tree flags

Options

- internal

  When set to zero, indicates internal metrics.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS default metric value

This is a metric understood by every Intermediate system in the domain. Each circuit shall have a positive integral value assigned for this metric. The value may be associated with any objective function of the circuit, but by convention is intended to measure the capacity of the circuit for handling traffic, for example, its throughput in bits-per-second. Higher values indicate a lower capacity.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* default-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay-metric

Description This container defines the ISIS delay metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* delay-metric

Tree delay-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Delay Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* delay-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS delay metric value

This metric measures the transit delay of the associated circuit. It is an optional metric, which if assigned to a circuit shall have a positive integral value. Higher values indicate a longer transit delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* delay-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

error-metric

Description This container defines the ISIS error metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* error-metric

Tree error-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description IS-IS error metric flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* error-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.
- unsupported

When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS error metric value

This metric measures the residual error probability of the associated circuit. It is an optional metric, which if assigned to a circuit shall have a non-zero value. Higher values indicate a larger probability of undetected errors on the circuit.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* error-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

expense-metric

Description This container defines the ISIS expense metric.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* expense-metric

Tree expense-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description ISIS Expense Metric Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* expense-metric flags *keyword*

Tree flags

Options

- internal

  When this flag is not set, internal metrics are in use.

- unsupported

  When this flag (referred to as the S-bit) is set, then the metric is unsupported.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS expense metric value

This metric measures the monetary cost of utilising the associated circuit. It is an optional metric, which if assigned to a circuit shall have a positive integral value1). Higher values indicate a larger monetary expense.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* is-reachability neighbors neighbor system-id *string* expense-metric metric *number*

Tree metric

Range 1 to 63

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

isis-neighbor-attribute

Description This container defines list of ISIS topology neighbors for extended ISIS LSP (multiple system IDs).

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute

Tree isis-neighbor-attribute

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbors

Description	This container describes IS neighbors.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors
Tree	neighbors
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor system-id *string*

Description	This list describes ISIS extended neighbors and reachability attributes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description	System-id of the neighbor.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string*
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instances

Description This list contains all instances of an adjacency between the originating IS and the remote IS. Multiple instances are used where there are parallel adjacencies between two systems.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances

Tree instances

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance id *number*

Description Instance of the TLV to the remote IS neighbor.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number*

Tree instance

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description Unique identifier for the instance of the TLV for the IS neighbor. The instance ID is not required to be consistent across across readvertisements of the LSP.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description Metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* metric *number*

Tree metric

Range 1 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS Neighbor sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs

Tree subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description List of subTLV types in the LSDB for the specified TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Tree subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sids

Description This container defines segment routing adjacency SIDs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids

Tree adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Tree adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group

Description This container defines sub-TLV 3.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group *number*

Description The administrative group sub-TLV contains a 4-octet bit mask assigned by the network administrator

Each set bit corresponds to one administrative group assigned to the interface. By convention, the least significant bit is referred to as group 0, and the most significant bit is referred to as group 31.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group admin-group *number*

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

available-bandwidth

Description This container defines unidirectional lavailable bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth

Tree available-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The available bandwidth on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, available bandwidth is defined to be residual bandwidth minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraints

Description This container defines bandwidth-constraints. For DS-TE, the existing Maximum Reservable link bandwidth parameter is retained, but its semantics is generalized and interpreted as the aggregate bandwidth constraint across all Class-Types

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints

Tree bandwidth-constraints

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraint model-id *number*

Description	List of the Bandwidth Constraints sub-TLV instances present in the TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*
Tree	bandwidth-constraint
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

model-id *number*

Description	Identifier for the Bandwidth Constraints Model currently in use by the LSR initiating the IGP advertisement.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraints

Description	Constraints contained within the Bandwidth Constraints sub-TLV
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints
Tree	constraints
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint constraint-id *number*

Description List of the constraints within the Bandwidth Constraints sub-TLV. The BC0 level is indicated by the constraint-id leaf being set to 0, with BCN being indicated by constraint-id N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Tree constraint

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint-id *number*

Description Unique reference for the bandwidth constraint level. BC0 is indicated by this leaf being set to zero, with BCN represented by this leaf being set to N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth constraint, expressed as a 32-bit IEEE floating point number expressed in bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number* bandwidth *binary*

Tree bandwidth

String Length 4

Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group

Description	This container defines sub-TLV 14.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group
Tree	extended-admin-group
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group *number*

Description	The extended-admin-group sub-TLV is used in addition to the Administrative Groups when it is desirable to make more than 32 colors available for advertisement in a network.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group extended-admin-group *number*
Tree	extended-admin-group
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address

Description	This container defines sub-TLV 6.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address
Tree	ipv4-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A 4-octet IPv4 address for the interface described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address

Description This container defines sub-TLV 8.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address

Tree ipv4-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A single IPv4 address for a neighboring router on this link. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address

Tree ipv6-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for the interface described by the containing Extended IS Reachability TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address

Description This container defines sub-TLV 13.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address

Tree ipv6-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for a neighboring router on the link described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sids

Description This container defines segment routing LAN adjacency SIDs

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids

Tree lan-adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Tree lan-adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description LAN Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with LAN-Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-id *string*

Description System ID of the neighbor associated with the LAN- Adj-Segment-ID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* neighbor-id *string*

Tree neighbor-id

String Length 14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-attributes

Description This container defines link-attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes

Tree link-attributes

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-protection *keyword*

Description Link local-protection attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes local-protection *keyword*

Tree local-protection

Options

- local-protection

  If set, local protection is available for the link.

- link-excluded

  If set, the link is excluded from local protection.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay

Description This container defines unidirectional link delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay

Tree link-delay

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay value (in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay-variation

Description This container defines unidirectional link delay variation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation

Tree link-delay-variation

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-id

Description This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id

Tree link-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local *number*

Description The value field of this sub-TLV contains 4 octets of Link Local Identifier followed by 4 octets of Link Remote Identifier.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id local *number*

Tree local

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote *number*

Description If the Link Remote Identifier is unknown, it is set to 0.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id remote *number*

Tree remote

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss

Description This container defines unidirectional link loss delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss *number*

Description Link packet loss as a percentage of the total traffic sent over a configurable interval. The basic unit is 0.000003%, where (2^24 - 2) is 50.331642%. This value s the highest packet-loss percentage that can be expressed (the assumption being that precision is more important on high-speed links than the ability to advertise loss rates greater than this, and that high- peed links with over 50% loss are unusable). Therefore, measured values that are larger than the field maximum SHOULD be encoded as the maximum value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss link-loss *number*

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-protection-type

Description ISIS LSDB parameters relating to the type of link protection offered.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type

Tree link-protection-type

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *keyword*

Description Link protection capabilities.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type type *keyword*

Tree type

Options

- extra-traffic

If set the link has extra traffic protection. If the link is of type Extra Traffic, it means that the link is protecting another link or links. The LSPs on a link of this type will be lost if any of the links it is protecting fail.

- unprotected

  If set, the link is unprotected. If the link is of type Unprotected, it means that there is no other link protecting this link. The LSPs on a link of this type will be lost if the link fails.

- shared

  If set, the link has shared protection. If the link is of type Shared, it means that there are one or more disjoint links of type Extra Traffic that are protecting this link. These Extra Traffic links are shared between one or more links of type Shared.

- one-one

  If set, the link has dedicated 1:1 protection. If the link is of type Dedicated 1:1, it means that there is one dedicated disjoint link of type Extra Traffic that is protecting this link.

- plus-one

  If set, the link has dedicated 1+1 protection. If the link is of type Dedicated 1+1, it means that a dedicated disjoint link is protecting this link. However, the protecting link is not advertised in the link state database and is therefore not available for the routing of LSPs.

- enhanced

  If set the link has enhanced protection. If the link is of type Enhanced, it means that a protection scheme that is more reliable than Dedicated 1+1, e.g., 4 fiber BLSR/MS-SPRING, is being used to protect this link.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-link-bandwidth

Description This container defines sub-TLV 9.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth

Tree max-link-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The maximum bandwidth that can be used on this link in this direction (from the system originating the LSP to its neighbors). It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth bandwidth *binary*
Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-reservable-link-bandwidth

Description	This container defines sub-TLV 10.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth
Tree	max-reservable-link-bandwidth
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The maximum amount of bandwidth that can be reserved in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth bandwidth *binary*

Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-max-link-delay

Description	This container defines min/max link delay.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay
Tree	min-max-link-delay
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description	The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay a-bit *boolean*
Tree	a-bit
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-delay *number*

Description	Maximum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay max-delay *number*

Tree max-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-delay *number*

Description Minimum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay min-delay *number*

Tree min-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

residual-bandwidth

Description This container defines unidirectional residual bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth

Tree residual-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description Residual bandwidth on a link,forwarding adjacency [RFC4206], or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, residual bandwidth is defined to be the Maximum Bandwidth [RFC5305] minus the bandwidth currently allocated to RSVP-TE label switched paths. For a bundled link, residual bandwidth is defined to be the sum of the component link residual bandwidths.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

te-default-metric

Description This container defines sub-TLV 18.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric

Tree te-default-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description This metric is administratively assigned and can be used to present a differently weighted topology to traffic engineering SPF calculations. To preclude overflow within a traffic engineering SPF implementation, all metrics greater than or equal to MAX_PATH_METRIC SHALL be considered to have a metric of MAX_PATH_METRIC.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances

instance id *number* subtlvs subtlv type *identityref* te-default-metric metric *number*

Tree metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unconstrained-lsp

Description This container defines sub-TLV 23.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp

Tree unconstrained-lsp

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

count *number*

Description Unconstrained TE LSP count(TE Label Switched Paths (LSPs) signalled with zero bandwidth).

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp count *number*

Tree count

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances

instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unreserved-bandwidth

Description This container defines unreserved-bandwidth. The units are bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth

Tree unreserved-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

setup-priority priority *number*

Description Enter the setup-priority list instance

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*

Tree setup-priority

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

priority *number*

Description Setup priority level of 0 through 7 to be used by Unreserved Bandwidth sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*

Range 0 to 7

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The amount of bandwidth reservable in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It contains eight 32-bit IEEE floating point numbers(one for each priority). The units are bytes (not bits!) per second. The values correspond to the bandwidth that can be reserved with a setup priority of 0 through 7, arranged in increasing order with priority 0 occurring at the start of the sub-TLV, and priority 7 at the end of the sub-TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number* bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

utilized-bandwidth

Description This container defines unidirectional utilized bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth

Tree utilized-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth utilization on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, bandwidth utilization represents the actual utilization of the link (i.e., as measured by the advertising node). For a bundled link, bandwidth utilization is defined to be the sum of the component link bandwidth utilizations.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description This container describes undefined ISIS TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs

Tree undefined-subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description Sub-TLVs that are not defined in the model or not recognised by system.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Tree undefined-subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description TLV Type.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* isis-neighbor-attribute neighbors neighbor system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsp-buffer-size

Description This container defines TLV 14 - the LSP Buffer Size TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* lsp-buffer-size

Tree lsp-buffer-size

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

size *number*

Description	The maximum MTU that the advertising system can receive, expressed in bytes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* lsp-buffer-size size *number*
Tree	size
Units	bytes
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-ipv4-reachability

Description	This container defines list of IPv4 reachability Information in multi-topology environment.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability
Tree	mt-ipv4-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefixes

Description	This container describes IS prefixes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes
Tree	prefixes
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix mt-id *number* prefix *string*

Description IPv4 prefixes that are contained within MT reachability TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string*

Tree prefix

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description Multi-topology ID

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string*

Range 0 to 4095

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description IPv4 prefix contained within extended reachability TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* metric *number*

Tree metric

Range 0 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

s-bit *boolean*

Description The Sub-TLV present bit. If UNSET, the octets of Sub-TLVs are not present. Otherwise, the bit is set and the octet following the prefix will contain the length of the Sub-TLV portion of the structure.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* s-bit *boolean*

Tree s-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS prefix sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs

Tree subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description List of subTLV types in the LSDB for the specified TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref*

Tree subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.
- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.
- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags

Description This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* flags

Tree flags

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Additional prefix reachability flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* flags flags *keyword*

Tree flags

Options

- external-flag

  External prefix flag. Set if the prefix has been redistributed from another protocol. This includes the case where multiple virtual routers are supported and the source of the redistributed prefix is another IS-IS instance.

- readvertisement-flag

  Readvertisement flag. Set when the prefix has been leaked from one level to another (upwards or downwards).

- node-flag

  Node flag. Set when the prefix identifies the advertising router, i.e., the prefix is a host prefix advertising a globally reachable address typically associated with a loopback address.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* flags type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-source-router-id

Description This container defines sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id

Tree ipv4-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv4 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* ipv4-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-source-router-id

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id

Tree ipv6-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv6 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* ipv6-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sids

Description This container defines segment routing extensions for prefixes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* prefix-sids

Tree prefix-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sid value *number*

Description Prefix Segment-ID list. IGP-Prefix Segment is an IGP segment attached to an IGP prefix. An IGP-Prefix Segment is global (unless explicitly advertised otherwise) within the SR/IGP domain.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Tree prefix-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description IGP Prefix-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

Description Prefix-SID algorithm to be used for path computation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* algorithm *number*

Tree algorithm

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Prefix Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* flags *keyword*

Tree flags

Options

- readvertisement

  Readvertisment flag. When set, the prefix to which this Prefix-SID is attached, has been propagated by the router either from another level or from redistribution.

- node

  Node flag. When set, the Prefix-SID refers to the router identified by the prefix. Typically, the N-Flag is set on Prefix-SIDs attached to a router loopback address.

- no-php

  Penultimate-Hop-Popping flag. When set, then the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.

- explicit-null

  Explicit-Null flag. When set, any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID having an Explicit-NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet.

- value

  Value flag. When set, the Prefix-SID carries a value (instead of an index). By default the flag is UNSET.

- local

  Local flag. When set, the value/index carried by the Prefix-SID has local significance. By default the flag is UNSET.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag

Description This container defines sub-TLV 1.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* tag

Tree tag

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag32 *number*

Description List of 32-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* tag tag32 *number*

Tree tag32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64

Description This container defines sub-TLV 2.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* tag64

Tree tag64

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64 *number*

Description List of 64-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* subtlvs subtlv type *identityref* tag64 tag64 *number*

Tree tag64

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description	This container describes undefined ISIS TLVs.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* undefined-subtlvs
Tree	undefined-subtlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description	Sub-TLVs that are not defined in the model or not recognised by system.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* undefined-subtlvs undefined-subtlv type *number*
Tree	undefined-subtlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description	TLV Type.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* undefined-subtlvs undefined-subtlv type *number*
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

up-down *boolean*

Description The up/down bit. Set if a prefix is advertised from a higher level to a lower level (e.g., level 2 to level 1), indicating that the prefix has traveled down the hierarchy. Prefixes that have the up/down bit set may only be advertised down the hierarchy, i.e., to lower levels. When a prefix is first injected into IS-IS, the bit is UNSET.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv4-reachability prefixes prefix mt-id *number* prefix *string* up-down *boolean*

Tree up-down

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-ipv6-reachability

Description	This container defines list of IPv6 reachability information in multi - topology environment.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability
Tree	mt-ipv6-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefixes

Description	This container describes IS prefixes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes
Tree	prefixes
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix prefix *string* mt-id *number*

Description	List of IPv6 prefixes contained within MT reachability TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number*
Tree	prefix
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description IPv6 prefix contained within extended reachability TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description Multi-topology ID

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number*

Range 0 to 4095

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* metric *number*

Tree metric

Range 0 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

s-bit *boolean*

Description	The sub-tlv present bit. If UNSET, the octets of Sub-TLVs are not present. Otherwise, the bit is set and the octet following the prefix will contain the length of the Sub-TLV portion of the structure.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* s-bit *boolean*
Tree	s-bit
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description	This container describes IS prefix sub-TLVs.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs
Tree	subtlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description	List of subTLV types in the LSDB for the specified TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref*
Tree	subtlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags

Description This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* flags

Tree flags

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Additional prefix reachability flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* flags flags *keyword*

Tree flags

Options

- external-flag

External prefix flag. Set if the prefix has been redistributed from another protocol. This includes the case where multiple virtual routers are supported and the source of the redistributed prefix is another IS-IS instance.

- readvertisement-flag

  Readvertisement flag. Set when the prefix has been leaked from one level to another (upwards or downwards).

- node-flag

  Node flag. Set when the prefix identifies the advertising router, i.e., the prefix is a host prefix advertising a globally reachable address typically associated with a loopback address.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* flags type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-source-router-id

Description This container defines sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* ipv4-source-router-id

Tree ipv4-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv4 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* ipv4-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* ipv4-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-source-router-id

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* ipv6-source-router-id

Tree ipv6-source-router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv6 Source router ID address. In cases where the advertisement is an identifier for the advertising router (e.g., with the N-flag set in the Prefix Attribute Flags sub-TLV), it may be useful for other routers to know the source of the advertisement. When reachability advertisement is leaked from one level to another, Router ID advertised is always the Router ID of the IS-IS instance that originated the advertisement. This would be true even if the prefix had been learned from another protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* ipv6-source-router-id router-id *string*

Tree router-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* ipv6-source-router-id type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sids

Description This container defines segment routing extensions for prefixes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* prefix-sids

Tree prefix-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sid value *number*

Description Prefix Segment-ID list. IGP-Prefix Segment is an IGP segment attached to an IGP prefix. An IGP-Prefix Segment is global (unless explicitly advertised otherwise) within the SR/IGP domain.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Tree prefix-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description IGP Prefix-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

Description Prefix-SID algorithm to be used for path computation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* algorithm *number*

Tree algorithm

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Prefix Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* prefix-sids prefix-sid value *number* flags *keyword*

Tree flags

Options

- readvertisement

  Readvertisment flag. When set, the prefix to which this Prefix-SID is attached, has been propagated by the router either from another level or from redistribution.

- node

  Node flag. When set, the Prefix-SID refers to the router identified by the prefix. Typically, the N-Flag is set on Prefix-SIDs attached to a router loopback address.

- no-php

Penultimate-Hop-Popping flag. When set, then the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.

- explicit-null

  Explicit-Null flag. When set, any upstream neighbor of the Prefix-SID originator MUST replace the Prefix-SID with a Prefix-SID having an Explicit-NULL value (0 for IPv4 and 2 for IPv6) before forwarding the packet.

- value

  Value flag. When set, the Prefix-SID carries a value (instead of an index). By default the flag is UNSET.

- local

  Local flag. When set, the value/index carried by the Prefix-SID has local significance. By default the flag is UNSET.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag

Description This container defines sub-TLV 1.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* tag

Tree tag

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag32 *number*

Description List of 32-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* tag tag32 *number*

Tree tag32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64

Description This container defines sub-TLV 2.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* tag64

Tree tag64

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag64 *number*

Description List of 64-bit tags associated with the prefix. Example uses of these tags include carrying BGP standard (or extended) communities and controlling redistribution between levels and areas, different routing protocols, or multiple instances of IS-IS running on the same router.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* subtlvs subtlv type *identityref* tag64 tag64 *number*

Tree tag64

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description This container describes undefined ISIS TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* undefined-subtlvs

Tree	undefined-subtlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description	Sub-TLVs that are not defined in the model or not recognised by system.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* undefined-subtlvs undefined-subtlv type *number*
Tree	undefined-subtlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description	TLV Type.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* undefined-subtlvs undefined-subtlv type *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description	TLV length.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* undefined-subtlvs undefined-subtlv type *number* length *number*
Tree	length
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

up-down *boolean*

Description The up/down bit. Set if a prefix is advertised from a higher level to a lower level (e.g., level 2 to level 1), indicating that the prefix has traveled down the hierarchy. Prefixes that have the up/down bit set may only be advertised down the hierarchy, i.e., to lower levels. When a prefix is first injected into IS-IS, the bit is UNSET.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* up-down *boolean*

Tree up-down

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

x-bit *boolean*

Description The external bit. Set when the prefix was distributed into IS-IS from another routing protocol.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-ipv6-reachability prefixes prefix prefix *string* mt-id *number* x-bit *boolean*

Tree x-bit

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-isis-neighbor-attribute

Description	This container defines list of ISIS multi-topology neighbors.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute
Tree	mt-isis-neighbor-attribute
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbors

Description	MT-IS neigbor attributes.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors
Tree	neighbors
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor mt-id *number* system-id *string*

Description	This container describes IS neighbors.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description Identifier of a topology being announced.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string*

Range 0 to 4095

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description System-id of the IS neighbor.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string*

String Length 14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instances

Description This list contains all instances of an adjacency between the originating and remote IS. Multiple instances are used to indicate where there are arallel adjacencies between systems.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances

Tree instances

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance id *number*

Description Instance of TLV-222 between the originating and remote IS.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number*

Tree instance

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description Unique identifier for the TLV instance for the neighbor. The ID is not required to be consistent across readvertisements of the LSP.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* metric *number*

Tree metric

Range 0 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS Neighbor sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs

Tree subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description List of subTLV types in the LSDB for the specified TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Tree subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sids

Description This container defines segment routing adjacency SIDs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids

Tree adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Tree adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

  Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group

Description This container defines sub-TLV 3.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group *number*

Description The administrative group sub-TLV contains a 4-octet bit mask assigned by the network administrator

Each set bit corresponds to one administrative group assigned to the interface. By convention, the least significant bit is referred to as group 0, and the most significant bit is referred to as group 31.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group admin-group *number*

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

available-bandwidth

Description This container defines unidirectional lavailable bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth

Tree	available-bandwidth
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The available bandwidth on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, available bandwidth is defined to be residual bandwidth minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth bandwidth *binary*
Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description	The type of subTLV being described. The type of subTLV is expressed as a canonical name.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth type *identityref*
Tree	type
Options	• is-reachability-subtlvs-type Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.
- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraints

Description This container defines bandwidth-constraints. For DS-TE, the existing Maximum Reservable link bandwidth parameter is retained, but its semantics is generalized and interpreted as the aggregate bandwidth constraint across all Class-Types

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints

Tree bandwidth-constraints

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraint model-id *number*

Description List of the Bandwidth Constraints sub-TLV instances present in the TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*

Tree bandwidth-constraint

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

model-id *number*

Description	Identifier for the Bandwidth Constraints Model currently in use by the LSR initiating the IGP advertisement.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraints

Description	Constraints contained within the Bandwidth Constraints sub-TLV
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints
Tree	constraints
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint constraint-id *number*

Description	List of the constraints within the Bandwidth Constraints sub-TLV. The BC0 level is indicated by the constraint-id leaf being set to 0, with BCN being indicated by constraint-id N.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*
Tree	constraint
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint-id *number*

Description Unique reference for the bandwidth constraint level. BC0 is indicated by this leaf being set to zero, with BCN represented by this leaf being set to N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth constraint, expressed as a 32-bit IEEE floating point number expressed in bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number* bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group

Description This container defines sub-TLV 14.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group

Tree extended-admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group *number*

Description The extended-admin-group sub-TLV is used in addition to the Administrative Groups when it is desirable to make more than 32 colors available for advertisement in a network.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group extended-admin-group *number*

Tree extended-admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address

Description This container defines sub-TLV 6.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address

Tree ipv4-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A 4-octet IPv4 address for the interface described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address

Description This container defines sub-TLV 8.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address

Tree ipv4-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A single IPv4 address for a neighboring router on this link. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address

Tree ipv6-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for the interface described by the containing Extended IS Reachability TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address

Description This container defines sub-TLV 13.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address

Tree ipv6-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for a neighboring router on the link described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address address *string*

Tree	address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sids

Description	This container defines segment routing LAN adjacency SIDs
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids
Tree	lan-adjacency-sids
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sid value *number*

Description	Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*
Tree	lan-adjacency-sid
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description	LAN Adjacency-SID value.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string*

instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with LAN-Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

  Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-id *string*

Description System ID of the neighbor associated with the LAN- Adj-Segment-ID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* neighbor-id *string*

Tree neighbor-id

String Length 14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-attributes

Description This container defines link-attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes

Tree link-attributes

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-protection *keyword*

Description Link local-protection attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes local-protection *keyword*

Tree local-protection

Options

- local-protection

  If set, local protection is available for the link.

- link-excluded

  If set, the link is excluded from local protection.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay

Description This container defines unidirectional link delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay

Tree link-delay

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay value (in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay-variation

Description This container defines unidirectional link delay variation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation

Tree link-delay-variation

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-id

Description This container defines sub-TLV 4.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id

Tree link-id

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local *number*

Description The value field of this sub-TLV contains 4 octets of Link Local Identifier followed by 4 octets of Link Remote Identifier.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id local *number*

Tree local

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote *number*

Description If the Link Remote Identifier is unknown, it is set to 0.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id remote *number*

Tree remote

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss

Description This container defines unidirectional link loss delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss *number*

Description Link packet loss as a percentage of the total traffic sent over a configurable interval. The basic unit is 0.000003%, where (2^24 - 2) is 50.331642%. This value s the highest packet-loss percentage that can be expressed (the assumption being that precision is more important on high-speed links than the ability to advertise loss rates greater than this, and that high- peed links with over 50% loss are unusable). Therefore, measured values that are larger than the field maximum SHOULD be encoded as the maximum value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss link-loss *number*

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-protection-type

Description ISIS LSDB parameters relating to the type of link protection offered.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type

Tree link-protection-type

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *keyword*

Description Link protection capabilities.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type type *keyword*

Tree type

Options

- extra-traffic

  If set the link has extra traffic protection. If the link is of type Extra Traffic, it means that the link is protecting another link or links. The LSPs on a link of this type will be lost if any of the links it is protecting fail.

- unprotected

  If set, the link is unprotected. If the link is of type Unprotected, it means that there is no other link protecting this link. The LSPs on a link of this type will be lost if the link fails.

- shared

  If set, the link has shared protection. If the link is of type Shared, it means that there are one or more disjoint links of type Extra Traffic that are

protecting this link. These Extra Traffic links are shared between one or more links of type Shared.

- one-one

  If set, the link has dedicated 1:1 protection. If the link is of type Dedicated 1:1, it means that there is one dedicated disjoint link of type Extra Traffic that is protecting this link.

- plus-one

  If set, the link has dedicated 1+1 protection. If the link is of type Dedicated 1+1, it means that a dedicated disjoint link is protecting this link. However, the protecting link is not advertised in the link state database and is therefore not available for the routing of LSPs.

- enhanced

  If set the link has enhanced protection. If the link is of type Enhanced, it means that a protection scheme that is more reliable than Dedicated 1+1, e.g., 4 fiber BLSR/MS-SPRING, is being used to protect this link.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-link-bandwidth

Description This container defines sub-TLV 9.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth

Tree max-link-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The maximum bandwidth that can be used on this link in this direction (from the system originating the LSP to its neighbors). It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id

string instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-reservable-link-bandwidth

Description This container defines sub-TLV 10.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth

Tree max-reservable-link-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The maximum amount of bandwidth that can be reserved in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-max-link-delay

Description	This container defines min/max link delay.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay
Tree	min-max-link-delay
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description	The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay a-bit *boolean*
Tree	a-bit
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-delay *number*

Description	Maximum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay max-delay *number*
Tree	max-delay
Units	microseconds
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-delay *number*

Description Minimum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay min-delay *number*

Tree min-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

residual-bandwidth

Description This container defines unidirectional residual bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth

Tree residual-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description Residual bandwidth on a link,forwarding adjacency [RFC4206], or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, residual bandwidth is defined to be the Maximum Bandwidth [RFC5305] minus the bandwidth currently allocated to RSVP-TE label switched paths. For a bundled link, residual bandwidth is defined to be the sum of the component link residual bandwidths.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

te-default-metric

Description This container defines sub-TLV 18.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric

Tree te-default-metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description This metric is administratively assigned and can be used to present a differently weighted topology to traffic engineering SPF calculations. To preclude overflow within a traffic engineering SPF implementation, all metrics greater than or equal to MAX_PATH_METRIC SHALL be considered to have a metric of MAX_PATH_METRIC.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric metric *number*

Tree metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unconstrained-lsp

Description This container defines sub-TLV 23.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp

Tree unconstrained-lsp

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

count *number*

Description Unconstrained TE LSP count(TE Label Switched Paths (LSPs) signalled with zero bandwidth).

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp count *number*

Tree count

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unreserved-bandwidth

Description This container defines unreserved-bandwidth. The units are bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth

Tree unreserved-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

setup-priority priority *number*

Description Enter the setup-priority list instance

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*

Tree setup-priority

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

priority *number*

Description Setup priority level of 0 through 7 to be used by Unreserved Bandwidth sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string*

instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*

Range 0 to 7

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The amount of bandwidth reservable in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It contains eight 32-bit IEEE floating point numbers(one for each priority). The units are bytes (not bits!) per second. The values correspond to the bandwidth that can be reserved with a setup priority of 0 through 7, arranged in increasing order with priority 0 occurring at the start of the sub-TLV, and priority 7 at the end of the sub-TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number* bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

utilized-bandwidth

Description This container defines unidirectional utilized bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth

Tree utilized-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth utilization on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, bandwidth utilization represents the actual utilization of the link (i.e., as measured by the advertising node). For a bundled link, bandwidth utilization is defined to be the sum of the component link bandwidth utilizations.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description This container describes undefined ISIS TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs

Tree undefined-subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description Sub-TLVs that are not defined in the model or not recognised by system.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Tree undefined-subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description TLV Type.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isis-neighbor-attribute neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-isn

Description This container defines list of ISIS multi-topology neighbors.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn

Tree mt-isn

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbors

Description MT-IS neigbor attributes.

Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors
Tree	neighbors
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor mt-id *number* system-id *string*

Description	This container describes IS neighbors.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description	Identifier of a topology being announced.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string*
Range	0 to 4095
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description	System-id of the IS neighbor.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string*
String Length	14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instances

Description This list contains all instances of an adjacency between the originating and remote IS. Multiple instances are used to indicate where there are arallel adjacencies between systems.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances

Tree instances

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance id *number*

Description Instance of TLV-222 between the originating and remote IS.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number*

Tree instance

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description Unique identifier for the TLV instance for the neighbor. The ID is not required to be consistent across readvertisements of the LSP.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description ISIS metric value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* metric *number*

Tree metric

Range 0 to 16777215

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description This container describes IS Neighbor sub-TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs

Tree subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description List of subTLV types in the LSDB for the specified TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Tree subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.
- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.
- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sids

Description This container defines segment routing adjacency SIDs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids

Tree adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Tree adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

  Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* adjacency-sids adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group

Description This container defines sub-TLV 3.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-group *number*

Description The administrative group sub-TLV contains a 4-octet bit mask assigned by the network administrator

Each set bit corresponds to one administrative group assigned to the interface. By convention, the least significant bit is referred to as group 0, and the most significant bit is referred to as group 31.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* admin-group admin-group *number*

Tree admin-group

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

available-bandwidth

Description This container defines unidirectional lavailable bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth

Tree available-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The available bandwidth on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, available bandwidth is defined to be residual bandwidth minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths minus the measured bandwidth used for the actual forwarding of non-RSVP-TE label switched path packets. For a bundled link, available bandwidth is defined to be the sum of the component link available bandwidths.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth bandwidth *binary*

Tree bandwidth

String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description	The type of subTLV being described. The type of subTLV is expressed as a canonical name.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* available-bandwidth type *identityref*
Tree	type
Options	• is-reachability-subtlvs-type Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type. • ip-reachability-subtlvs-type Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type. • router-capability-subtlvs-type Base identity for an ISIS TLV 242 SUB-TLV type.
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraints

Description	This container defines bandwidth-constraints. For DS-TE, the existing Maximum Reservable link bandwidth parameter is retained, but its semantics is generalized and interpreted as the aggregate bandwidth constraint across all Class-Types
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints
Tree	bandwidth-constraints
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth-constraint model-id *number*

Description List of the Bandwidth Constraints sub-TLV instances present in the TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*

Tree bandwidth-constraint

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

model-id *number*

Description Identifier for the Bandwidth Constraints Model currently in use by the LSR initiating the IGP advertisement.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraints

Description Constraints contained within the Bandwidth Constraints sub-TLV

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints

Tree constraints

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint constraint-id *number*

Description List of the constraints within the Bandwidth Constraints sub-TLV. The BC0 level is indicated by the constraint-id leaf being set to 0, with BCN being indicated by constraint-id N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Tree constraint

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

constraint-id *number*

Description Unique reference for the bandwidth constraint level. BC0 is indicated by this leaf being set to zero, with BCN represented by this leaf being set to N.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth constraint, expressed as a 32-bit IEEE floating point number expressed in bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* bandwidth-constraints bandwidth-constraint model-id *number* constraints constraint constraint-id *number* bandwidth *binary*

Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group

Description	This container defines sub-TLV 14.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group
Tree	extended-admin-group
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-admin-group *number*

Description	The extended-admin-group sub-TLV is used in addition to the Administrative Groups when it is desirable to make more than 32 colors available for advertisement in a network.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* extended-admin-group extended-admin-group *number*
Tree	extended-admin-group
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address

Description	This container defines sub-TLV 6.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address

Tree ipv4-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A 4-octet IPv4 address for the interface described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address

Description This container defines sub-TLV 8.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address

Tree ipv4-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description A single IPv4 address for a neighboring router on this link. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance

id *number* subtlvs subtlv type *identityref* ipv4-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address

Description This container defines sub-TLV 12.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address

Tree ipv6-interface-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for the interface described by the containing Extended IS Reachability TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-interface-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address

Description This container defines sub-TLV 13.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address

Tree ipv6-neighbor-address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description Contains a 16-octet IPv6 address for a neighboring router on the link described by the (main) TLV. This sub-TLV can occur multiple times.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* ipv6-neighbor-address address *string*

Tree address

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sids

Description This container defines segment routing LAN adjacency SIDs

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids

Tree lan-adjacency-sids

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lan-adjacency-sid value *number*

Description Adjacency Segment-IDs List. An IGP-Adjacency Segment is an IGP segment attached to a unidirectional adjacency or a set of unidirectional adjacencies. By default, an IGP- Adjacency Segment is local to the node which advertises it.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Tree lan-adjacency-sid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description LAN Adjacency-SID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Flags associated with LAN-Adj-Segment-ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* flags *keyword*

Tree flags

Options

- address-family

  Address-family flag. When unset, the Adj-SID refers to an adjacency with outgoing IPv4 encapsulation. If set then the Adj-SID refers to an adjacency with outgoing IPv6 encapsulation.

- backup

  Backup flag. When set, the Adj-SID refers to an adjacency being protected (e.g.: using IPFRR or MPLS-FRR).

- value

  Value flag. When set, the SID carries a value (instead of an index). By default the flag is SET.

- local

  Local flag. When set, the value/index carried by the SID has local significance. By default the flag is SET.

- set

  Set flag. When set, the S-Flag indicates that the Adj-SID refers to a set of adjacencies.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-id *string*

Description System ID of the neighbor associated with the LAN- Adj-Segment-ID value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* neighbor-id *string*

Tree neighbor-id

String Length 14

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description Value that represents the weight of the Adj-SID for the purpose of load balancing.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* lan-adjacency-sids lan-adjacency-sid value *number* weight *number*

Tree weight

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-attributes

Description This container defines link-attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes

Tree link-attributes

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-protection *keyword*

Description Link local-protection attributes.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-attributes local-protection *keyword*

Tree local-protection

Options

- local-protection

  If set, local protection is available for the link.

- link-excluded

  If set, the link is excluded from local protection.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay

Description This container defines unidirectional link delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay

Tree link-delay

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description Average link delay value (in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay delay *number*

Tree delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-delay-variation

Description This container defines unidirectional link delay variation.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation

Tree link-delay-variation

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description	Average link delay between two directly connected IS-IS neighbors over a configurable interval.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-delay-variation delay *number*
Tree	delay
Units	microseconds
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-id

Description	This container defines sub-TLV 4.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id
Tree	link-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local *number*

Description	The value field of this sub-TLV contains 4 octets of Link Local Identifier followed by 4 octets of Link Remote Identifier.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id local *number*
Tree	local
Configurable	False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote *number*

Description If the Link Remote Identifier is unknown, it is set to 0.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-id remote *number*

Tree remote

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss

Description This container defines unidirectional link loss delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-loss *number*

Description Link packet loss as a percentage of the total traffic sent over a configurable interval. The basic unit is 0.000003%, where (2^24 - 2) is 50.331642%. This value s the highest packet-loss percentage that can be expressed (the assumption being that precision is more important on high-speed links than the ability to advertise loss rates greater than this, and that high- peed links with over 50% loss are unusable). Therefore, measured values that are larger than the field maximum SHOULD be encoded as the maximum value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-loss link-loss *number*

Tree link-loss

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-protection-type

Description ISIS LSDB parameters relating to the type of link protection offered.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type

Tree link-protection-type

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *keyword*

Description Link protection capabilities.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* link-protection-type type *keyword*

Tree type

Options

- extra-traffic

  If set the link has extra traffic protection. If the link is of type Extra Traffic, it means that the link is protecting another link or links. The LSPs on a link of this type will be lost if any of the links it is protecting fail.

- unprotected

  If set, the link is unprotected. If the link is of type Unprotected, it means that there is no other link protecting this link. The LSPs on a link of this type will be lost if the link fails.

- shared

  If set, the link has shared protection. If the link is of type Shared, it means that there are one or more disjoint links of type Extra Traffic that are protecting this link. These Extra Traffic links are shared between one or more links of type Shared.

- one-one

  If set, the link has dedicated 1:1 protection. If the link is of type Dedicated 1:1, it means that there is one dedicated disjoint link of type Extra Traffic that is protecting this link.

- plus-one

  If set, the link has dedicated 1+1 protection. If the link is of type Dedicated 1+1, it means that a dedicated disjoint link is protecting this link. However, the protecting link is not advertised in the link state database and is therefore not available for the routing of LSPs.

- enhanced

  If set the link has enhanced protection. If the link is of type Enhanced, it means that a protection scheme that is more reliable than Dedicated 1+1, e.g., 4 fiber BLSR/MS-SPRING, is being used to protect this link.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-link-bandwidth

Description This container defines sub-TLV 9.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth

Tree max-link-bandwidth

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The maximum bandwidth that can be used on this link in this direction (from the system originating the LSP to its neighbors). It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-link-bandwidth bandwidth *binary*
Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-reservable-link-bandwidth

Description	This container defines sub-TLV 10.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth
Tree	max-reservable-link-bandwidth
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	The maximum amount of bandwidth that can be reserved in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It is encoded in 32 bits in IEEE floating point format. The units are bytes (not bits!) per second.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* max-reservable-link-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-max-link-delay

Description This container defines min/max link delay.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay

Tree min-max-link-delay

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

a-bit *boolean*

Description The A bit is set when the measured value of this parameter exceeds its configured maximum threshold. The A bit is cleared when the measured value falls below its configured reuse threshold.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay a-bit *boolean*

Tree a-bit

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-delay *number*

Description Maximum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay max-delay *number*

Tree max-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

min-delay *number*

Description Minimum measured link delay value(in microseconds) between two directly connected IS-IS neighbors over a configurable interval.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* min-max-link-delay min-delay *number*

Tree min-delay

Units microseconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

residual-bandwidth

Description This container defines unidirectional residual bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth

Tree residual-bandwidth

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description	Residual bandwidth on a link,forwarding adjacency [RFC4206], or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, residual bandwidth is defined to be the Maximum Bandwidth [RFC5305] minus the bandwidth currently allocated to RSVP-TE label switched paths. For a bundled link, residual bandwidth is defined to be the sum of the component link residual bandwidths.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* residual-bandwidth bandwidth *binary*
Tree	bandwidth
String Length	4
Units	bytes per second
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

te-default-metric

Description	This container defines sub-TLV 18.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric
Tree	te-default-metric
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description	This metric is administratively assigned and can be used to present a differently weighted topology to traffic engineering SPF calculations. To preclude overflow within a traffic engineering SPF implementation, all metrics greater than or equal to MAX_PATH_METRIC SHALL be considered to have a metric of MAX_PATH_METRIC.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* te-default-metric metric *number*

Tree metric

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unconstrained-lsp

Description This container defines sub-TLV 23.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp

Tree unconstrained-lsp

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

count *number*

Description Unconstrained TE LSP count(TE Label Switched Paths (LSPs) signalled with zero bandwidth).

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp count *number*

Tree count

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unconstrained-lsp type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unreserved-bandwidth

Description This container defines unreserved-bandwidth. The units are bytes per second.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth

Tree unreserved-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

setup-priority priority *number*

Description Enter the setup-priority list instance

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*

Tree setup-priority

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

priority *number*

Description Setup priority level of 0 through 7 to be used by Unreserved Bandwidth sub-TLV 11.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number*

Range 0 to 7

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The amount of bandwidth reservable in this direction on this link. Note that for oversubscription purposes, this can be greater than the bandwidth of the link. It contains eight 32-bit IEEE floating point numbers(one for each priority). The units are bytes (not bits!) per second. The values correspond to the bandwidth that can be reserved with a setup priority of 0 through 7, arranged in increasing order with priority 0 occurring at the start of the sub-TLV, and priority 7 at the end of the sub-TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* unreserved-bandwidth setup-priority priority *number* bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

utilized-bandwidth

Description This container defines unidirectional utilized bandwidth.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth

Tree utilized-bandwidth

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bandwidth *binary*

Description The bandwidth utilization on a link, forwarding adjacency, or bundled link in IEEE floating-point format with units of bytes per second. For a link or forwarding adjacency, bandwidth utilization represents the actual utilization of the link (i.e., as measured by the advertising node). For a bundled link, bandwidth utilization is defined to be the sum of the component link bandwidth utilizations.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth bandwidth *binary*

Tree bandwidth

String Length 4

Units bytes per second

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description The type of subTLV being described. The type of subTLV is expressed as a canonical name.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* subtlvs subtlv type *identityref* utilized-bandwidth type *identityref*

Tree type

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlvs

Description This container describes undefined ISIS TLVs.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs

Tree undefined-subtlvs

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-subtlv type *number*

Description Sub-TLVs that are not defined in the model or not recognised by system.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Tree undefined-subtlv

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description TLV Type.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description TLV length.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* length *number*

Tree length

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description TLV value.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* mt-isn neighbors neighbor mt-id *number* system-id *string* instances instance id *number* undefined-subtlvs undefined-subtlv type *number* value *binary*

Tree value

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multi-topology

Description This container defines the topology supported.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* multi-topology

Tree multi-topology

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

topologies

Description This container describes IS topologies.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* multi-topology topologies

Tree topologies

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

topology mt-id *number*

Description This list describes a topology.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* multi-topology topologies topology mt-id *number*

Tree topology

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description Multi-topology ID.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* multi-topology topologies topology mt-id *number*

Range 0 to 4095

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

attributes *keyword*

Description Attributes of the LSP for the associated topology.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* multi-topology topologies topology mt-id *number* attributes *keyword*

Tree attributes

Options

- overload

  When set, node is overloaded, still part of the topology but cannot be used for transit.

- attached

  When set, node is attached to another area using the referred metric and can be used as default gateway.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

nlpid

Description This container defines TLV 129.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* nlpid

Tree nlpid

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

nlpid *keyword*

Description Protocol supported. IPv4 is defined as (0xcc) and IPv6 -(0x8e)

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* nlpid nlpid *keyword*

Tree nlpid

Options

- ipv4

  IPv4 Address family.

- ipv6

  IPv6 Address family.

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

purge-oi

Description	This container defines ISIS purge TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* purge-oi
Tree	purge-oi
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-system-id *string*

Description	System ID of the Intermediate System from which the purge was received.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* purge-oi received-system-id *string*
Tree	received-system-id
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-system-id *string*

Description	System ID of the Intermediate System that inserted this TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* purge-oi source-system-id *string*
Tree	source-system-id
String Length	14
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id-count *number*

Description	Number of system IDs carried in this TLV.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* purge-oi system-id-count *number*
Tree	system-id-count
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-capabilities

Description	This container defines router capabilities.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities
Tree	router-capabilities
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

capability instance-number *number*

Description	This list describes IS Router capabilities.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number*
Tree	capability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance-number *number*

Description A unique instance number for the instance of the router capabilities TLV. The instance number should be autogenerated by the producer of the data and may be renumbered if the entire LSP contents are replaced in subsequent advertisements.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Router capability flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* flags *keyword*

Tree flags

Options

- flood

  When the S bit is set(1), the IS - IS Router CAPABILITY TLV MUST be flooded across the entire routing domain. When the S bit is not set(0), the TLV MUST NOT be leaked between levels . This bit MUST NOT be altered during the TLV leaking.

- down

  When the IS-IS Router CAPABILITY TLV is leaked from level - 2 to level-1, the Down bit MUST be set. Otherwise, this bit MUST be clear. IS - IS Router capability TLVs with the Down bit set MUST NOT be leaked from level - 1 to level-2. This is to prevent TLV looping.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description IPv4 router-id.

Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* router-id *string*
Tree	router-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlvs

Description	This container describes router capability TLV sub-TLVs
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs
Tree	subtlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subtlv type *identityref*

Description	List of subTLV types in the LSDB for the specified TLV
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref*
Tree	subtlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *identityref*

Description	The type of subTLV being described. The type of subTLV is expressed as a canonical name.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

router-capabilities capability instance-number *number* subtlvs subtlv type *identityref*

Options

- is-reachability-subtlvs-type

  Base identity for an ISIS TLV 22, 23, 222, 223, 141 SUB-TLV type.

- ip-reachability-subtlvs-type

  Base identity for an ISIS TLV 135, 235, 236, 237 SUB-TLV type.

- router-capability-subtlvs-type

  Base identity for an ISIS TLV 242 SUB-TLV type.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sbfd-discriminators

Description This container defines sbfd discriminators sub-TLV 20.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* sbfd-discriminators

Tree sbfd-discriminators

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

discriminator *number*

Description Advertised Seamless BFD (S-BFD) Discriminator.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* sbfd-discriminators discriminator *number*

Tree discriminator

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

segment-routing-algorithms

Description This container defines SR algorithm sub-TLV 19.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-algorithms

Tree segment-routing-algorithms

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *keyword*

Description The Segment Routing algorithm that is described by the TLV.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-algorithms algorithm *keyword*

Tree algorithm

Options

- spf

  Shortest Path First (SPF) algorithm based on link metric. This is the well-known shortest path algorithm as computed by the IS-IS Decision process. Consistent with the deployed practice for link-state protocols, algorithm 0 permits any node to overwrite the SPF path with a different path based on local policy.

- strict-spf

  Strict Shortest Path First (SPF) algorithm based on link metric. The algorithm is identical to algorithm 0 but algorithm 1 requires that all nodes along the path will honor the SPF routing decision. Local policy MUST NOT alter the forwarding decision computed by algorithm 1 at the node claiming to support algorithm 1.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

segment-routing-capability

Description This container defines SR Capability sub-TLV 2.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref*

router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-capability

Tree segment-routing-capability

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags *keyword*

Description Segment Routing Capability Flags.

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-capability flags *keyword*

Tree flags

Options

- ipv4-mpls

  When set, the router is capable of processing SR MPLS encapsulated IPv4 packets on all interfaces.

- ipv6-mpls

  When set, the router is capable of processing SR MPLS encapsulated IPv6 packets on all interfaces.

- ipv6-sr

  When set, the router is capable of processing the IPv6 Segment Routing Header on all interfaces.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

srgb-descriptors

Description SRGB Descriptors included within the SR capability sub-TLV

Context network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-capability srgb-descriptors

Tree srgb-descriptors

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

srgb-descriptor range *number*

Description	Descriptor entry within the SR capabilty sub-TLV
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-capability srgb-descriptors srgb-descriptor range *number*
Tree	srgb-descriptor
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

range *number*

Description	Number of SRGB elements. The range value MUST be greater than 0.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-capability srgb-descriptors srgb-descriptor range *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label *number*

Description	The first value of the SRGB when expressed as an MPLS label.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* tlvs tlv type *identityref* router-capabilities capability instance-number *number* subtlvs subtlv type *identityref* segment-routing-capability srgb-descriptors srgb-descriptor range *number* label *number*
Tree	label
Range	16 to 1048575
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-tlvs

Description	Surrounding container for a list of unknown TLVs.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* undefined-tlvs
Tree	undefined-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-tlv type *number*

Description	List of TLVs that are not defined within the model, or are not recognised by the system.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* undefined-tlvs undefined-tlv type *number*
Tree	undefined-tlv
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *number*

Description	TLV Type.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* undefined-tlvs undefined-tlv type *number*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

length *number*

Description	TLV length.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* undefined-tlvs undefined-tlv type *number* length *number*
Tree	length
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *binary*

Description	TLV value.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* undefined-tlvs undefined-tlv type *number* value *binary*
Tree	value
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

version *number*

Description	PDU version. This is set to 1.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* version *number*
Tree	version
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

version2 *number*

Description	PDU version2. This is set to 1
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* link-state-database lsp lsp-id *string* version2 *number*

Tree	version2
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric-style *keyword*

Description	Specifies the metric style to be wide or narrow for the level
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* metric-style *keyword*
Tree	metric-style
Default	wide
Options	• narrow This enum describes narrow metric style • wide This enum describes wide metric style
Configurable	True
Platforms	Supported on all platforms

route-preference

Description	Specify the route preference (admin distance) for IP routes asssociated with the level
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* route-preference
Tree	route-preference
Configurable	True
Platforms	Supported on all platforms

external *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* route-preference external *number*
Tree	external

Range	1 to 255
Configurable	True
Platforms	Supported on all platforms

internal *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* route-preference internal *number*
Tree	internal
Range	1 to 255
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Per level statistics in an ISIS instance
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

authentication-failures *number*

Description	Number of times an IS-IS control PDU associated with this level had the correct auth type but failed to pass authentication validation
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics authentication-failures *number*
Tree	authentication-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

authentication-type-failures *number*

Description	Number of times an IS-IS control PDU associated with this level had an auth type field different from that for this system
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics authentication-type-failures *number*
Tree	authentication-type-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

corrupted-lsps *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics corrupted-lsps *number*
Tree	corrupted-lsps
Default	0
Configurable	False
Platforms	Supported on all platforms

database-overloads *number*

Description	Number of times the database has become overloaded
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics database-overloads *number*
Tree	database-overloads
Default	0
Configurable	False
Platforms	Supported on all platforms

exceeded-max-sequence-number *number*

Description	Number of times the system has attempted to exceed the maximum sequence number
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics exceeded-max-sequence-number *number*

Tree	exceeded-max-sequence-number
Default	0
Configurable	False
Platforms	Supported on all platforms

lsp-errors *number*

Description	Number of received LSPs with parse errors
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics lsp-errors *number*
Tree	lsp-errors
Default	0
Configurable	False
Platforms	Supported on all platforms

manual-address-drop-from-area *number*

Description	number of times a manual address has been dropped from area
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics manual-address-drop-from-area *number*
Tree	manual-address-drop-from-area
Default	0
Configurable	False
Platforms	Supported on all platforms

max-area-address-mismatches *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics max-area-address-mismatches *number*
Tree	max-area-address-mismatches
Default	0
Configurable	False
Platforms	Supported on all platforms

own-lsp-purges *number*

Description	Number of times a zero-aged copy of the system's own LSP is received from some other node
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics own-lsp-purges *number*
Tree	own-lsp-purges
Default	0
Configurable	False
Platforms	Supported on all platforms

sequence-number-skips *number*

Description	Number of times a sequence number skip has occurred
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics sequence-number-skips *number*
Tree	sequence-number-skips
Default	0
Configurable	False
Platforms	Supported on all platforms

spf-runs *number*

Description	number of times a full SPF run has been performed on the level LSDB since the IS-IS manager restarted
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics spf-runs *number*
Tree	spf-runs
Default	0
Configurable	False
Platforms	Supported on all platforms

system-id-length-mismatches *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* statistics system-id-length-mismatches *number*

Tree	system-id-length-mismatches
Default	0
Configurable	False
Platforms	Supported on all platforms

trace-options

Description	Level debug trace options for IS-IS
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* trace-options
Tree	trace-options
Configurable	True
Platforms	Supported on all platforms

trace *keyword*

Description	List of tracing options
Context	network-instance name *string* protocols isis instance name *string* level level-number *number* trace-options trace *keyword*
Tree	trace
Options	• adjacencies • lsdb • routes • spf
Configurable	True
Platforms	Supported on all platforms

level-capability *keyword*

Description	The level-capability of the intermediate system (router)
Context	network-instance name *string* protocols isis instance name *string* level-capability *keyword*
Tree	level-capability
Default	L2
Options	• L1 This enum describes ISIS level 1

- L2

  This enum describes ISIS level 2
- L1L2

  This enum describes ISIS level 1-2

Configurable True

Platforms Supported on all platforms

level-database level-number *number* lsp-id *string*

Description Link State database

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string*

Tree level-database

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

level-number *number*

Description Specifies the IS-IS protocol level to which these attributes are applied.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string*

Range 1 to 2

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsp-id *string*

Description 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.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string*

String Length 20

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

attributes

Description	Enter the attributes context
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* attributes
Tree	attributes
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

attached *boolean*

Description	Set to true in the L1 LSP when the IS has a Level 2 adjacency.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* attributes attached *boolean*
Tree	attached
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

level1-is-type *boolean*

Description	Set to true when the router participates in L1
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* attributes level1-is-type *boolean*
Tree	level1-is-type
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

level2-is-type *boolean*

Description	Set to true when the router participates in L2
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* attributes level2-is-type *boolean*
Tree	level2-is-type
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

overload *boolean*

Description	Set to true when the IS is in overload state and should be avoided for transit.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* attributes overload *boolean*
Tree	overload
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

checksum *string*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* checksum *string*
Tree	checksum
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

defined-tlvs

Description	List of defined TLV-s contained in LSP.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs

Tree	defined-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

area-addresses *string*

Description	Each item represents an area address advertised by the LSP.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs area-addresses *string*
Tree	area-addresses
String Length	2 to 38
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-ipv4-reachability ipv4-prefix *string*

Description	TLV specifying extended IPv4 Reachability information in the LSP. TLV type = 135
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*
Tree	extended-ipv4-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix *string*

Description	An IPv4 prefix that is reachable to the router.
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*
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-ipv4-reachability ipv4-prefix *string* down *boolean*
Tree	down
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-ipv4-reachability ipv4-prefix *string* metric *number*
Tree	metric
Range	0 to 16777215
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
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
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route-tag-32bit *number*

Description	List of 32-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 extended-ipv4-reachability ipv4-prefix *string* sub-tlvs route-tag-32bit *number*
Tree	route-tag-32bit
Range	1 to 4294967295
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-ipv4-reachability ipv4-prefix *string* sub-tlvs route-tag-64bit *number*
Tree	route-tag-64bit
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-ipv4-reachability ipv4-prefix *string* sub-tlvs segment-routing-prefix-sid
Tree	segment-routing-prefix-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-sid *boolean*

Description If set the prefix SID refers to the router identified by the prefix.

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 node-sid *boolean*

Tree node-sid

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

penultimate-hop-popping *boolean*

Description If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.

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 penultimate-hop-popping *boolean*

Tree penultimate-hop-popping

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

re-advertised *boolean*

Description 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.

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 re-advertised *boolean*

Tree re-advertised

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-ipv4-reachability ipv4-prefix *string* sub-tlvs segment-routing-prefix-sid sr-index-or-label *number*

Tree sr-index-or-label

Configurable False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *boolean*

Description	If set then the Prefix-SID carries a value
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 value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extended-is-reachability neighbor *string*

Description	Each TLV encodes the identity of an adjacent IS neighbor. TLV type = 22
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*
Tree	extended-is-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *string*

Description	An adjacent IS neighbor
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*
String Length	17
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric *number*

Description	The default metric to reach this adjacent neighbor.
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* default-metric *number*
Tree	default-metric
Range	0 to 16777215
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	SubTLVs of TLV 22 and TLV 222
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
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address *string*

Description	The IPv4 address of the interface to the neighbor. Sub-TLV = 6.
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 ipv4-interface-address *string*
Tree	ipv4-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address *string*

Description	The IPv4 address of the neighbor. Sub-TLV = 8.

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 ipv4-neighbor-address *string*
Tree	ipv4-neighbor-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address *string*

Description	The IPv6 address of the interface to the neighbor. Sub-TLV = 12.
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 ipv6-interface-address *string*
Tree	ipv6-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address *string*

Description	The IPv4 address of the neighbor. Sub-TLV = 13.
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 ipv6-neighbor-address *string*
Tree	ipv6-neighbor-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-msd

Description	The maximum segment depth of the link to the neighbor. Sub-TLV = 15.
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 link-msd
Tree	link-msd

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-info msd-type *(keyword | number)* msd-value *number*

Description	List of MSD entries
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 link-msd msd-info msd-type *(keyword | number)* msd-value *number*
Tree	msd-info
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-type *(keyword | number)*

Description	MSD type
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 link-msd msd-info msd-type *(keyword | number)* msd-value *number*
Range	2 to 254
Options	• base-mpls-imposition-msd
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-value *number*

Description	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
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 link-msd msd-info msd-type *(keyword | number)* msd-value *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

segment-routing-adjacency-sid sr-index-or-label *number*

Description	List of Adj-SID sub-TLVs associated with the neighbor. Sub-TLV = 31.
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*
Tree	segment-routing-adjacency-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
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* ipv6-family *boolean*
Tree	ipv6-family
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-is-reachability neighbor *string* sub-tlvs segment-routing-adjacency-sid sr-index-or-label *number* local *boolean*
Tree	local
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-is-reachability neighbor *string* sub-tlvs segment-routing-adjacency-sid sr-index-or-label *number* persistent *boolean*
Tree	persistent
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-is-reachability neighbor *string* sub-tlvs segment-routing-adjacency-sid sr-index-or-label *number* value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description	The value represents the weight of the Adj-SID for the purpose of load balancing
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* weight *number*
Tree	weight
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

segment-routing-lan-adjacency-sid sr-index-or-label *number*

Description	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.
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-lan-adjacency-sid sr-index-or-label *number*
Tree	segment-routing-lan-adjacency-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-lan-adjacency-sid sr-index-or-label *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-lan-adjacency-sid sr-index-or-label *number* adj-set *boolean*
Tree	adj-set
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-lan-adjacency-sid sr-index-or-label *number* backup *boolean*
Tree	backup
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
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-lan-adjacency-sid sr-index-or-label *number* ipv6-family *boolean*
Tree	ipv6-family
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-is-reachability neighbor *string* sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label *number* local *boolean*
Tree	local
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-system-id *string*

Description	IS-IS system-ID of the LAN neighbor
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-lan-adjacency-sid sr-index-or-label *number* neighbor-system-id *string*
Tree	neighbor-system-id
String Length	14
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-is-reachability neighbor *string* sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label *number* persistent *boolean*
Tree	persistent
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 extended-is-reachability neighbor *string* sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label *number* value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description	The value represents the weight of the Adj-SID for the purpose of load balancing
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-lan-adjacency-sid sr-index-or-label *number* weight *number*
Tree	weight
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hostname *string*

Description	Host name that advertised this LSP.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs hostname *string*
Tree	hostname
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-external-reachability ipv4-prefix *string*

Description	TLV specifying external IPv4 Reachability information in the LSP. External reachability is typically routing information learned from another protocol. TLV type = 130

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*
Tree	ipv4-external-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix *string*

Description	An IPv4 prefix that is reachable to the router.
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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-addresses *(ipv4-address | ipv6-address)*

Description Each item represents an IPv4 address configured on an interface in this IS-IS instance.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv4-interface-addresses *(ipv4-address | ipv6-address)*

Tree ipv4-interface-addresses

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-internal-reachability ipv4-prefix *string*

Description TLV specifying internal IPv4 Reachability information in the LSP. TLV type = 128

Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv4-internal-reachability ipv4-prefix *string*
Tree	ipv4-internal-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix *string*

Description	An IPv4 prefix that is reachable to the router.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv4-internal-reachability ipv4-prefix *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-internal-reachability ipv4-prefix *string* default-metric *number*
Tree	default-metric
Range	0 to 63
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-internal-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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-internal-reachability ipv4-prefix *string* down *boolean*

Tree down

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-addresses *(ipv4-address | ipv6-address)*

Description Each item represents an IPv6 address configured on an interface in this IS-IS instance.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-interface-addresses *(ipv4-address | ipv6-address)*

Tree ipv6-interface-addresses

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-reachability ipv6-prefix *string*

Description TLV specifying IPv6 Reachability information in the LSP. TLV type = 236

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string*

Tree	ipv6-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-prefix *string*

Description	An IPv6 prefix that is reachable to the router.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string*
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

down *boolean*

Description	Reads true when the IPv6 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 ipv6-reachability ipv6-prefix *string* down *boolean*
Tree	down
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

external *boolean*

Description	Reads true when the IPv6 prefix reachability is external (learned from another protocol).
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string* external *boolean*
Tree	external
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description	The metric to reach this IPv6 prefix.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string* metric *number*
Tree	metric
Range	0 to 16777215
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string* sub-tlvs
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route-tag-32bit *number*

Description	List of 32-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 ipv6-reachability ipv6-prefix *string* sub-tlvs route-tag-32bit *number*
Tree	route-tag-32bit
Range	1 to 4294967295
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-reachability ipv6-prefix *string* sub-tlvs route-tag-64bit *number*
Tree	route-tag-64bit
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid
Tree	segment-routing-prefix-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid algorithm *keyword*
Tree	algorithm
Options	• spf • strict-spf
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid explicit-null *boolean*
Tree	explicit-null
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid local *boolean*
Tree	local
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-sid *boolean*

Description	If set the prefix SID refers to the router identified by the prefix.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid node-sid *boolean*
Tree	node-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

penultimate-hop-popping *boolean*

Description	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability

ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid penultimate-hop-popping *boolean*

Tree	penultimate-hop-popping
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

re-advertised *boolean*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid re-advertised *boolean*
Tree	re-advertised
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid sr-index-or-label *number*
Tree	sr-index-or-label
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *boolean*

Description	If set then the Prefix-SID carries a value
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

is-reachability neighbor *string*

Description	Each TLV encodes the identity of an adjacent IS neighbor. TLV type = 2
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs is-reachability neighbor *string*
Tree	is-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *string*

Description	An adjacent IS neighbor
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs is-reachability neighbor *string*
String Length	17
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric *number*

Description	The default metric to reach this adjacent neighbor.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs is-reachability neighbor *string* default-metric *number*
Tree	default-metric
Range	0 to 63
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 is-reachability neighbor *string* default-metric-type *keyword*

Tree default-metric-type

Options

- internal
- external

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-ipv4-reachability ipv4-prefix *string*

Description TLV specifying multi-topology IPv4 reachability information in the LSP. TLV type = 235

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*

Tree mt-ipv4-reachability

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix *string*

Description An IPv4 prefix that is reachable to the router.

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*

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv4-reachability ipv4-prefix *string* down *boolean*
Tree	down
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv4-reachability ipv4-prefix *string* metric *number*
Tree	metric
Range	0 to 16777215
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description	A multi-topology ID.
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* mt-id *number*
Tree	mt-id
Range	0 to 4095
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
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
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route-tag-32bit *number*

Description	List of 32-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-32bit *number*
Tree	route-tag-32bit
Range	1 to 4294967295
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv4-reachability ipv4-prefix *string* sub-tlvs segment-routing-prefix-sid explicit-null *boolean*

Tree explicit-null

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv4-reachability ipv4-prefix *string* sub-tlvs segment-routing-prefix-sid local *boolean*

Tree local

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-sid *boolean*

Description	If set the prefix SID refers to the router identified by the 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 segment-routing-prefix-sid node-sid *boolean*
Tree	node-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

penultimate-hop-popping *boolean*

Description	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the 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 penultimate-hop-popping *boolean*
Tree	penultimate-hop-popping
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

re-advertised *boolean*

Description	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.
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 re-advertised *boolean*
Tree	re-advertised
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv4-reachability ipv4-prefix *string* sub-tlvs segment-routing-prefix-sid sr-index-or-label *number*
Tree	sr-index-or-label
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *boolean*

Description	If set then the Prefix-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-ipv4-reachability ipv4-prefix *string* sub-tlvs segment-routing-prefix-sid value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-ipv6-reachability ipv6-prefix *string*

Description	TLV specifying IPv6 Reachability information in the LSP. TLV type = 237
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string*
Tree	mt-ipv6-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-prefix *string*

Description	An IPv6 prefix that is reachable to the router.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string*

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

down *boolean*

Description	Reads true when the IPv6 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 mt-ipv6-reachability ipv6-prefix *string* down *boolean*
Tree	down
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

external *boolean*

Description	Reads true when the IPv6 prefix reachability is external (learned from another protocol).
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string* external *boolean*
Tree	external
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description	The metric to reach this IPv6 prefix.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string* metric *number*
Tree	metric
Range	0 to 16777215
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description	A multi-topology ID.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string* mt-id *number*
Tree	mt-id
Range	0 to 4095
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	SubTLVs of TLV 135, TLV 235, TLV 236 and TLV 237
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string* sub-tlvs
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

route-tag-32bit *number*

Description	List of 32-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-ipv6-reachability ipv6-prefix *string* sub-tlvs route-tag-32bit *number*
Tree	route-tag-32bit
Range	1 to 4294967295
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-ipv6-reachability ipv6-prefix *string* sub-tlvs route-tag-64bit *number*
Tree	route-tag-64bit
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid
Tree	segment-routing-prefix-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid algorithm *keyword*
Tree	algorithm
Options	• spf • strict-spf
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid explicit-null *boolean*
Tree	explicit-null
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid local *boolean*
Tree	local
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-sid *boolean*

Description	If set the prefix SID refers to the router identified by the prefix.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid node-sid *boolean*
Tree	node-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

penultimate-hop-popping *boolean*

Description	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-SID.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability

	ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid penultimate-hop-popping *boolean*
Tree	penultimate-hop-popping
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

re-advertised *boolean*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs mt-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid re-advertised *boolean*
Tree	re-advertised
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid sr-index-or-label *number*
Tree	sr-index-or-label
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *boolean*

Description	If set then the Prefix-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-ipv6-reachability ipv6-prefix *string* sub-tlvs segment-routing-prefix-sid value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-is-reachability neighbor *string*

Description	Each TLV encodes the identity of an adjacent IS neighbor in a specific topology. TLV type = 222
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*
Tree	mt-is-reachability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor *string*

Description	An adjacent IS neighbor
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*
String Length	17
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-metric *number*

Description	The default metric to reach this adjacent neighbor.
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* default-metric *number*
Tree	default-metric
Range	0 to 16777215
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description	A multi-topology ID.
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* mt-id *number*
Tree	mt-id
Range	0 to 4095
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	SubTLVs of TLV 22 and TLV 222
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
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-interface-address *string*

Description	The IPv4 address of the interface to the neighbor. Sub-TLV = 6.
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 ipv4-interface-address *string*
Tree	ipv4-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-neighbor-address *string*

Description	The IPv4 address of the neighbor. Sub-TLV = 8.

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 ipv4-neighbor-address *string*
Tree	ipv4-neighbor-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-interface-address *string*

Description	The IPv6 address of the interface to the neighbor. Sub-TLV = 12.
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 ipv6-interface-address *string*
Tree	ipv6-interface-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-neighbor-address *string*

Description	The IPv4 address of the neighbor. Sub-TLV = 13.
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 ipv6-neighbor-address *string*
Tree	ipv6-neighbor-address
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-msd

Description	The maximum segment depth of the link to the neighbor. Sub-TLV = 15.
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 link-msd
Tree	link-msd

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-info msd-type *(keyword | number)* msd-value *number*

Description	List of MSD entries
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 link-msd msd-info msd-type *(keyword | number)* msd-value *number*
Tree	msd-info
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-type *(keyword | number)*

Description	MSD type
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 link-msd msd-info msd-type *(keyword | number)* msd-value *number*
Range	2 to 254
Options	• base-mpls-imposition-msd
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-value *number*

Description	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
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 link-msd msd-info msd-type *(keyword | number)* msd-value *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

segment-routing-adjacency-sid sr-index-or-label *number*

Description	List of Adj-SID sub-TLVs associated with the neighbor. Sub-TLV = 31.
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*
Tree	segment-routing-adjacency-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-is-reachability neighbor *string* sub-tlvs segment-routing-adjacency-sid sr-index-or-label *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-is-reachability neighbor *string* sub-tlvs segment-routing-adjacency-sid sr-index-or-label *number* backup *boolean*

Tree	backup
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
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* ipv6-family *boolean*
Tree	ipv6-family
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description	The value represents the weight of the Adj-SID for the purpose of load balancing
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* weight *number*
Tree	weight
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

segment-routing-lan-adjacency-sid sr-index-or-label *number*

Description	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.
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-lan-adjacency-sid sr-index-or-label *number*
Tree	segment-routing-lan-adjacency-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-is-reachability neighbor *string* sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label *number*

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-is-reachability neighbor *string* sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label *number* adj-set *boolean*

Tree adj-set

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 mt-is-reachability neighbor *string* sub-tlvs segment-routing-lan-adjacency-sid sr-index-or-label *number* backup *boolean*

Tree backup

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.

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-lan-adjacency-sid sr-index-or-label *number* ipv6-family *boolean*

Tree ipv6-family

Configurable False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-lan-adjacency-sid sr-index-or-label *number* local *boolean*
Tree	local
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-system-id *string*

Description	IS-IS system-ID of the LAN neighbor
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-lan-adjacency-sid sr-index-or-label *number* neighbor-system-id *string*
Tree	neighbor-system-id
String Length	14
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-lan-adjacency-sid sr-index-or-label *number* persistent *boolean*
Tree	persistent
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-lan-adjacency-sid sr-index-or-label *number* value *boolean*
Tree	value
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description	The value represents the weight of the Adj-SID for the purpose of load balancing
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-lan-adjacency-sid sr-index-or-label *number* weight *number*
Tree	weight
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multi-topology

Description	The Multi-Topology TLV, type 229.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs multi-topology
Tree	multi-topology
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

topology mt-id *number*

Description	The list of multi-topology IDs that the router is participating in
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*

Tree	topology
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mt-id *number*

Description	A multi-topology ID.
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*
Range	0 to 4095
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

purge-oi *string*

Description	This indicates System ID that originated a purge.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs purge-oi *string*
Tree	purge-oi
String Length	14
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-capability

Description	Allows a router to announce its capabilities within an IS-IS level or the entire routing domain. TLV = 242.

Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability
Tree	router-capability
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

leaked-down *boolean*

Description	When true, the TLV was leaked down from Level 2 to Level 1 and must not be leaked back up to L2
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability leaked-down *boolean*
Tree	leaked-down
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

router-id *string*

Description	Router ID indicating the source of the TLV
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability router-id *string*
Tree	router-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

scope-is-domain-wide *boolean*

Description	When true, the TLV MUST be flooded across the entire routing domain. When false, the TLV MUST NOT be leaked between levels.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability scope-is-domain-wide *boolean*

Tree	scope-is-domain-wide
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sub-tlvs

Description	Sub-TLVs of TLV 242
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs
Tree	sub-tlvs
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-msd

Description	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
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs node-msd
Tree	node-msd
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-info msd-type *(keyword | number)* msd-value *number*

Description	List of MSD entries
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs node-msd msd-info msd-type *(keyword | number)* msd-value *number*
Tree	msd-info
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-type *(keyword | number)*

Description	MSD type
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs node-msd msd-info msd-type *(keyword | number)* msd-value *number*
Range	2 to 254
Options	• base-mpls-imposition-msd
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

msd-value *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs node-msd msd-info msd-type *(keyword | number)* msd-value *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sr-algorithm

Description	Advertises the IGP algorithms that the router is using
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-algorithm
Tree	sr-algorithm
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

Description	List of algorithm types supported by the router. Algorithm 0 should always be in the list

Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-algorithm algorithm *number*
Tree	algorithm
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sr-capabilities

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-capabilities
Tree	sr-capabilities
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-support *boolean*

Description	When true, the router is capable of processing SR-MPLS-encapsulated IPv4 packets on all interfaces
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-capabilities ipv4-support *boolean*
Tree	ipv4-support
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-support *boolean*

Description	When true, the router is capable of processing SR-MPLS-encapsulated IPv6 packets on all interfaces
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-capabilities ipv6-support *boolean*
Tree	ipv6-support
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

srgb-descriptor sr-index-or-label *number* range *number*

Description	List of Segment Routing Global Block descriptors
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-capabilities srgb-descriptor sr-index-or-label *number* range *number*
Tree	srgb-descriptor
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sr-index-or-label *number*

Description	An index representing the first value of the SRGB. The meaning (index or label) is determined from the length of the sub-tlv.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-capabilities srgb-descriptor sr-index-or-label *number* range *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

range *number*

Description	The number of SRGB elements
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-capabilities srgb-descriptor sr-index-or-label *number* range *number*
Range	1 to 16777215
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sr-local-block

Description	Used to advertise the range of labels the node has reserved for local SIDs.

Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-local-block
Tree	sr-local-block
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

srlb-descriptor sr-index-or-label *number* range *number*

Description	List of Segment Routing Local Block descriptors
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-local-block srlb-descriptor sr-index-or-label *number* range *number*
Tree	srlb-descriptor
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sr-index-or-label *number*

Description	An index representing the first value of the SRLB. The meaning (index or label) is determined from the length of the sub-tlv.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-local-block srlb-descriptor sr-index-or-label *number* range *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

range *number*

Description	The number of SRLB elements
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs router-capability sub-tlvs sr-local-block srlb-descriptor sr-index-or-label *number* range *number*
Range	1 to 16777215
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

te-router-id *string*

Description	A single stable address that can always be referenced in a path that will be reachable from multiple hops away. TLV = 134.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* defined-tlvs te-router-id *string*
Tree	te-router-id
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum-area-addresses *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* maximum-area-addresses *number*
Tree	maximum-area-addresses
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

pdu-length *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* pdu-length *number*
Tree	pdu-length
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

pdu-type *number*

Description 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.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* pdu-type *number*

Tree pdu-type

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

pkt-version *number*

Description The value indicates the version of the ISIS protocol that has generated the Packet.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* pkt-version *number*

Tree pkt-version

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remaining-lifetime *number*

Description 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.

Context network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* remaining-lifetime *number*

Tree remaining-lifetime

Range 0 to 65535

Units seconds

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sequence-number *string*

Description	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 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.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* sequence-number *string*
Tree	sequence-number
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id-len *number*

Description	The value indicates the length of the system-id as used by the originator.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* system-id-len *number*
Tree	system-id-len
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

undefined-tlvs *string*

Description	Undefined TLV-s as contents of the LSP.
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* undefined-tlvs *string*
Tree	undefined-tlvs
String Length	27 to 9190
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

version *number*

Description	The value indicates the version of the ISIS protocol that has generated the LSP
Context	network-instance name *string* protocols isis instance name *string* level-database level-number *number* lsp-id *string* version *number*
Tree	version
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-ecmp-paths *number*

Description	The maximum number of ECMP next-hops to program into the FIB for every IP prefix
Context	network-instance name *string* protocols isis instance name *string* max-ecmp-paths *number*
Tree	max-ecmp-paths
Range	1 to 64
Default	1
Configurable	True
Platforms	Supported on all platforms

net *string*

Description	ISIS network entity title (NET)
Context	network-instance name *string* protocols isis instance name *string* net *string*
Tree	net
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

oper-area-id *string*

Description	The list of area IDs associated with this IS router
Context	network-instance name *string* protocols isis instance name *string* oper-area-id *string*

Tree	oper-area-id
String Length	2 to 38
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	The value of the this object indicates the operational state of the destination.
Context	network-instance name *string* protocols isis instance name *string* 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.

Configurable False

Platforms Supported on all platforms

oper-system-id *string*

Description The ID for this instance of the Integrated IS-IS protocol.

Context network-instance name *string* protocols isis instance name *string* oper-system-id *string*

Tree oper-system-id

String Length 14

Configurable False

Platforms Supported on all platforms

overload

Description Specifies isis routing instance behavior regarding overload

Context network-instance name *string* protocols isis instance name *string* overload

Tree overload

Configurable True

Platforms Supported on all platforms

advertise-external *boolean*

Description When set to true, external (non-ISIS) routes continue to be advertised when the router is in overload.

Context network-instance name *string* protocols isis instance name *string* overload advertise-external *boolean*

Tree advertise-external

Default false

Configurable True

Platforms	Supported on all platforms

advertise-interlevel *boolean*

Description	When set to true, L1->L2 and L2->L1 inter-level routes continue to be advertised when the router is in overload.
Context	network-instance name *string* protocols isis instance name *string* overload advertise-interlevel *boolean*
Tree	advertise-interlevel
Default	false
Configurable	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 0xffffffe 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*
Tree	instance-is-in-overload
Configurable	False
Platforms	Supported on all platforms

on-boot

Description	Options for advertising an overloaded state whenever the IS-IS process restarts
Context	network-instance name *string* protocols isis instance name *string* overload on-boot
Tree	on-boot
Configurable	True
Platforms	Supported on all platforms

max-metric *boolean*

Description	When set to true transit links are advertised with a wide metric of 0xffffffe and a narrow metric of 0x3f
Context	network-instance name *string* protocols isis instance name *string* overload on-boot max-metric *boolean*
Tree	max-metric
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 on-boot set-bit *boolean*
Tree	set-bit
Configurable	True
Platforms	Supported on all platforms

timeout *number*

Description	Specifies the time that the router should remain in overload state after the IS-IS process restarts
Context	network-instance name *string* protocols isis instance name *string* overload on-boot timeout *number*
Tree	timeout
Range	60 to 1800
Units	seconds
Configurable	True
Platforms	Supported on all platforms

poi-tlv *boolean*

Description	When set to true, a TLV is added to purge to record the system ID of the IS generating the purge.
Context	network-instance name *string* protocols isis instance name *string* poi-tlv *boolean*
Tree	poi-tlv
Default	false
Configurable	True
Platforms	Supported on all platforms

restarting-neighbor-list

Description	The list of neighbors that have restarted recently and that are currently being helped.
Context	network-instance name *string* protocols isis instance name *string* restarting-neighbor-list
Tree	restarting-neighbor-list
Configurable	False
Platforms	Supported on all platforms

neighbor system-id *string*

Description	The list of neighbors that have restarted recently and that are currently being helped.
Context	network-instance name *string* protocols isis instance name *string* restarting-neighbor-list neighbor system-id *string*
Tree	neighbor
Configurable	False
Platforms	Supported on all platforms

system-id *string*

Description	The neighbor router's system ID.
Context	network-instance name *string* protocols isis instance name *string* restarting-neighbor-list neighbor system-id *string*
String Length	14
Configurable	False
Platforms	Supported on all platforms

hostname *string*

Description	The hostname of the neighbor, as learned by TLV 137.
Context	network-instance name *string* protocols isis instance name *string* restarting-neighbor-list neighbor system-id *string* hostname *string*
Tree	hostname
Configurable	False
Platforms	Supported on all platforms

segment-routing

Description	Enter the segment-routing context
Context	network-instance name *string* protocols isis instance name *string* segment-routing
Tree	segment-routing
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls

Description	Context used to configure SR-MPLS options
Context	network-instance name *string* protocols isis instance name *string* segment-routing mpls
Tree	mpls
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dynamic-adjacency-sids

Description	Enter the dynamic-adjacency-sids context
Context	network-instance name *string* protocols isis instance name *string* segment-routing mpls dynamic-adjacency-sids
Tree	dynamic-adjacency-sids
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

all-interfaces *boolean*

Description	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'.
Context	network-instance name *string* protocols isis instance name *string* segment-routing mpls dynamic-adjacency-sids all-interfaces *boolean*
Tree	all-interfaces
Default	false
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hold-time *(keyword | number)*

Description	Adjacency SID hold time that is applicable to dynamically allocated adjacency SIDs
Context	network-instance name *string* protocols isis instance name *string* segment-routing mpls dynamic-adjacency-sids hold-time *(keyword | number)*

Tree	hold-time
Range	1 to 300
Default	15
Units	seconds
Options	• none
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*
Range	16 to 1048575
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multi-topology-id *number*

Description	The multi-topology ID that provided the prefix 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*
Range	0 to 4095
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

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* 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

active *boolean*

Description	When false, the prefix SID is inactive. It could be inactive for any of these reasons:
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* active *boolean*
Tree	active

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-conflict *boolean*

Description	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.
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* prefix-conflict *boolean*
Tree	prefix-conflict
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sid-conflict *boolean*

Description	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.
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* sid-conflict *boolean*
Tree	sid-conflict
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sid-out-of-range *boolean*

Description	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.

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* sid-out-of-range *boolean*
Tree	sid-out-of-range
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-router system-id *string* level-number *number*

Description	The ISIS routers that provided the prefix SID. (Multiple in the case of redistribution.)
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* source-router system-id *string* level-number *number*
Tree	source-router
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system-id *string*

Description	The system-id of an ISIS router that originated or redistributed the prefix 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* source-router system-id *string* level-number *number*
String Length	14
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

level-number *number*

Description	The level of the LSP that advertises the prefix 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* source-router system-id *string* level-number *number*
Range	1 to 2
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

flags

Description	Flags that characterize the prefix 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* source-router system-id *string* level-number *number* flags
Tree	flags
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* segment-routing mpls sid-database prefix-sid prefix *(ipv4-prefix | ipv6-prefix)* sid-label-value *number* multi-topology-id *number* algorithm *number* source-router system-id *string* level-number *number* flags explicit-null *boolean*
Tree	explicit-null
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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* segment-routing mpls sid-database prefix-sid prefix *(ipv4-prefix | ipv6-prefix)* sid-label-value *number* multi-topology-id *number* algorithm *number* source-router system-id *string* level-number *number* flags local *boolean*
Tree	local
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-sid *boolean*

Description	If set the prefix SID refers to the router identified by the prefix.
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* source-router system-id *string* level-number *number* flags node-sid *boolean*
Tree	node-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

penultimate-hop-popping *boolean*

Description	If set the penultimate hop MUST NOT pop the Prefix-SID before delivering the packet to the node that advertised the Prefix-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* source-router system-id *string* level-number *number* flags penultimate-hop-popping *boolean*
Tree	penultimate-hop-popping
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

re-advertised *boolean*

Description	If set the prefix to which this Prefix-SID is attached was propagated from another level or from another protocol.
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* source-router system-id *string* level-number *number* flags re-advertised *boolean*
Tree	re-advertised
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-system *boolean*

Description	True when the system ID belongs to the local system.
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* source-router system-id *string* level-number *number* local-system *boolean*

Tree local-system

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Description List of PDUs processed by the IS-IS instance since the IS-IS manager restarted

Context network-instance name *string* protocols isis instance name *string* statistics pdu pdu-name *keyword*

Tree pdu

Configurable False

Platforms Supported on all platforms

pdu-name *keyword*

Description The PDU type that was processed

Context network-instance name *string* protocols isis instance name *string* statistics pdu pdu-name *keyword*

Options

- LSP

  Link State PDU
- IIH

  IS-to-IS Hello PDU
- CSNP

  Complete Sequence Number PDU
- PSNP

  Partial Sequence Number PDU
- Unknown

  Unknown PDU type

Configurable 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* 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* 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* 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
Context	network-instance name *string* protocols isis instance name *string* statistics pdu pdu-name *keyword* sent *number*
Tree	sent
Default	0
Configurable	False
Platforms	Supported on all platforms

spf-runs *number*

Description	The number of times a full 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 spf-runs *number*
Tree	spf-runs

Default	0
Configurable	False
Platforms	Supported on all platforms

timers

Description	Container for IS-IS timers applicable at the instance level
Context	network-instance name *string* protocols isis instance name *string* timers
Tree	timers
Configurable	True
Platforms	Supported on all platforms

lsp-generation

Description	Container with options for specifying LSP generation timer values
Context	network-instance name *string* protocols isis instance name *string* timers lsp-generation
Tree	lsp-generation
Configurable	True
Platforms	Supported on all platforms

initial-wait *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* timers lsp-generation initial-wait *number*
Tree	initial-wait
Range	10 to 100000
Default	10
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

max-wait *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* timers lsp-generation max-wait *number*
Tree	max-wait
Range	10 to 120000
Default	5000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

second-wait *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* timers lsp-generation second-wait *number*
Tree	second-wait
Range	10 to 100000
Default	1000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

lsp-lifetime *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* timers lsp-lifetime *number*
Tree	lsp-lifetime

Range	350 to 65535
Default	1200
Units	seconds
Configurable	True
Platforms	Supported on all platforms

lsp-refresh

Description	Configure LSP refresh timers.
Context	network-instance name *string* protocols isis instance name *string* timers lsp-refresh
Tree	lsp-refresh
Configurable	True
Platforms	Supported on all platforms

half-lifetime *boolean*

Description	When set to true, the LSP refresh interval is half the lsp-lifetime
Context	network-instance name *string* protocols isis instance name *string* timers lsp-refresh half-lifetime *boolean*
Tree	half-lifetime
Default	true
Configurable	True
Platforms	Supported on all platforms

interval *number*

Description	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.
Context	network-instance name *string* protocols isis instance name *string* timers lsp-refresh interval *number*
Tree	interval
Range	150 to 65535
Default	600
Units	seconds
Configurable	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

Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

second-wait *number*

Description	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
Context	network-instance name *string* protocols isis instance name *string* timers spf second-wait *number*
Tree	second-wait
Range	10 to 100000
Default	1000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

trace-options

Description	Instance level debug trace options for IS-IS
Context	network-instance name *string* protocols isis instance name *string* trace-options
Tree	trace-options
Configurable	True
Platforms	Supported on all platforms

trace *keyword*

Description	List of tracing options
Context	network-instance name *string* protocols isis instance name *string* trace-options trace *keyword*
Tree	trace
Options	• adjacencies • graceful-restart • interfaces

- 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

Configurable True

Platforms Supported on all platforms

transport

Description Enter the transport context

Context network-instance name *string* protocols isis instance name *string* transport

Tree transport

Configurable True

Platforms Supported on all platforms

lsp-mtu-size *number*

Description Sets the maximum size of LSPs generated by this router

Context network-instance name *string* protocols isis instance name *string* transport lsp-mtu-size *number*

Tree lsp-mtu-size

Range 490 to 9490

Default 1492

Units bytes

Configurable True

Platforms Supported on all platforms

weighted-ecmp

Description Enter the weighted-ecmp context

Context network-instance name *string* protocols isis instance name *string* weighted-ecmp

Tree weighted-ecmp

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description Setting enable triggers weighted ECMP programming for all eligible multipath IS-IS routes associated with the instance

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'.

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'.

Context network-instance name *string* protocols isis instance name *string* weighted-ecmp admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-ecmp-hash-buckets-per-next-hop-group *number*

Description Specifies the maximum number of ECMP hash buckets per next-hop-group.

Weighted ECMP weights are normalized based on this number of hash buckets.

Context network-instance name *string* protocols isis instance name *string* weighted-ecmp max-ecmp-hash-buckets-per-next-hop-group *number*

Tree max-ecmp-hash-buckets-per-next-hop-group

Range 1 to 128

Default 128

Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

non-stop-forwarding

Description	Enter the non-stop-forwarding context
Context	network-instance name *string* protocols isis non-stop-forwarding
Tree	non-stop-forwarding
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Used to administratively enable or disable the IS-IS non-stop forwarding functionality.
Context	network-instance name *string* protocols isis non-stop-forwarding admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ldp

Description	Container for LDP configuration and state.
Context	network-instance name *string* protocols ldp
Tree	ldp
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Administratively enable or disable LDP.
Context	network-instance name *string* protocols ldp admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

discovery

Description	Neighbor discovery configuration and operational state.
Context	network-instance name *string* protocols ldp discovery
Tree	discovery
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interfaces

Description	The complete set of interfaces used for LDP Basic Discovery.
Context	network-instance name *string* protocols ldp discovery interfaces
Tree	interfaces
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-holdtime *number*

Description	The time interval for which a LDP Hello adjacency is maintained in the absence of Hello messages from the LDP neighbor
Context	network-instance name *string* protocols ldp discovery interfaces hello-holdtime *number*
Tree	hello-holdtime
Range	15 to 3600
Units	seconds
Configurable	True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-interval *number*

Description	The interval between consecutive LDP Hello messages used in LDP discovery
Context	network-instance name *string* protocols ldp discovery interfaces hello-interval *number*
Tree	hello-interval
Range	5 to 1200
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface name *string*

Description	List of LDP interfaces used for LDP Basic Discovery.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string*
Tree	interface
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Reference to a specific subinterface that is bound to the network instance
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string*
String Length	5 to 25
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-holdtime *number*

Description	The time interval for which a LDP Hello adjacency is maintained in the absence of Hello messages from the LDP neighbor
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* hello-holdtime *number*

Tree	hello-holdtime
Range	15 to 3600
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-interval *number*

Description	The interval between consecutive LDP Hello messages used in LDP discovery
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* hello-interval *number*
Tree	hello-interval
Range	5 to 1200
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4

Description	Enter the ipv4 context
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4
Tree	ipv4
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Administratively enable or disable LDP discovery for IPv4 on a particular interface.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable

Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-adjacencies

Description	Container with a list of hello adjacencies.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies
Tree	hello-adjacencies
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency lsr-id *reference* label-space-id *reference*

Description	List of hello adjacencies.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference*
Tree	adjacency
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-id *reference*

Description	The LSR ID of the peer, as a portion of the peer LDP ID.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-holdtime

Description	Container for hello holdtime state information.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* hello-holdtime
Tree	hello-holdtime
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

negotiated *number*

Description	The holdtime negotiated between this LSR and the adjacent LSR.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* hello-holdtime negotiated *number*
Tree	negotiated
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

neighbor-proposed *number*

Description	The holdtime value learned from the adjacent LSR.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* hello-holdtime neighbor-proposed *number*
Tree	neighbor-proposed
Units	seconds
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remaining *number*

Description	The time remaining until the holdtime timer expires.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* hello-holdtime remaining *number*
Tree	remaining
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-received *number*

Description	The number of Hello messages received.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* hello-received *number*
Tree	hello-received
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-sent *number*

Description	The number of Hello messages sent.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* hello-sent *number*
Tree	hello-sent
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-address *string*

Description	Local address of the hello adjacency.

Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* local-address *string*
Tree	local-address
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-address *string*

Description	Remote address of the hello adjacency.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 hello-adjacencies adjacency lsr-id *reference* label-space-id *reference* remote-address *string*
Tree	remote-address
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-oper-state-change *string*

Description	The last time when the IPv4 oper-state changed.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 last-oper-state-change *string*
Tree	last-oper-state-change
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-down-reason *keyword*

Description	Reason for the LDP interface being down from an IPv4 perspective.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 oper-down-reason *keyword*
Tree	oper-down-reason
Options	• ldp-interface-admin-down • ldp-instance-oper-down • network-instance-subinterface-down • out-of-resources

- unknown

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description Operational state of IPv4 on the LDP interface

Context network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 oper-state *keyword*

Tree oper-state

Options

- up
- down

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description Statistics objects.

Context network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics

Tree statistics

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-message-errors

Description Counters for received Hello message errors

Context network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-message-errors

Tree hello-message-errors

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-message-length *number*

Description The number of Hello messages received with a bad message length

Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-message-errors bad-message-length *number*
Tree	bad-message-length
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-pdu-length *number*

Description	The number of Hello messages received with a bad PDU length
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-message-errors bad-pdu-length *number*
Tree	bad-pdu-length
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-protocol-version *number*

Description	The number of Hello messages received with a bad protocol version
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-message-errors bad-protocol-version *number*
Tree	bad-protocol-version
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

malformed-tlv-value *number*

Description	The number of Hello messages received with a malformed TLV value
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-message-errors malformed-tlv-value *number*
Tree	malformed-tlv-value
Default	0
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-received *number*

Description	The number of Hello messages received.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-received *number*
Tree	hello-received
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hello-sent *number*

Description	The number of Hello messages sent.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics hello-sent *number*
Tree	hello-sent
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options

Description	Configure event/packet tracing for one specific LDP interface.
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 trace-options
Tree	trace-options
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dynamic-label-block *reference*

Description	Reference to a dynamic label block
Context	network-instance name *string* protocols ldp dynamic-label-block *reference*
Tree	dynamic-label-block
Reference	system mpls label-ranges dynamic name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dynamic-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 ldp dynamic-label-block-status *keyword*
Tree	dynamic-label-block-status
Options	• available • unavailable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

graceful-restart

Description	Attributes for graceful restart.
Context	network-instance name *string* protocols ldp graceful-restart
Tree	graceful-restart
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bindings

Description	LDP address and label binding information.
Context	network-instance name *string* protocols ldp ipv4 bindings
Tree	bindings
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-id *reference*

Description	The LSR ID of the peer, as a portion of the peer LDP ID.
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-address peer 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 advertised-address peer 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ip-address *string*

Description	The list of IPv4 address bindings sent to the peer
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-address peer lsr-id *reference* label-space-id *reference* ip-address *string*
Tree	ip-address
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

advertised-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference*

Description	List of IPv4 FEC-label bindings advertised to LDP peers.
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference*
Tree	advertised-prefix-fecs
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec *string*

Description	The prefix FEC value in the FEC-label binding, advertised in a Label Mapping message sent to a peer.
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-id *reference*

Description	The LSR ID of the peer, as a portion of the peer LDP ID.
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 advertised-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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

egress-lsr-fec *boolean*

Description	When set true, the router is the egress LSR for the FEC (the FEC is locally originated).
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* egress-lsr-fec *boolean*
Tree	egress-lsr-fec
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label *(number | keyword)*

Description	Advertised label value.
Context	network-instance name *string* protocols ldp ipv4 bindings advertised-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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-status *keyword*

Description Label status.

Context network-instance name *string* protocols ldp ipv4 bindings advertised-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* label-status *keyword*

Tree label-status

Options
- released
- withdrawn
- wdraw-pending

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-type *keyword*

Description The label type of the advertised label.

Context network-instance name *string* protocols ldp ipv4 bindings advertised-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* label-type *keyword*

Tree label-type

Options
- pop

  An advertised label that is programmed with a POP operation.
- swap

  An advertised label that is programmed with a SWAP operation.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-address

Description Enter the received-address context

Context network-instance name *string* protocols ldp ipv4 bindings received-address

Tree received-address

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer lsr-id *reference* label-space-id *reference*

Description	List of LDP peers from which IPv4 address bindings have been received.
Context	network-instance name *string* protocols ldp ipv4 bindings received-address peer lsr-id *reference* label-space-id *reference*
Tree	peer
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-id *reference*

Description	The LSR ID of the peer, as a portion of the peer LDP ID.
Context	network-instance name *string* protocols ldp ipv4 bindings received-address peer 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-address peer 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ip-address *string*

Description	The list of IPv4 address bindings received from the peer
Context	network-instance name *string* protocols ldp ipv4 bindings received-address peer lsr-id *reference* label-space-id *reference* ip-address *string*
Tree	ip-address

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference*

Description	List of IPv4 FEC-label bindings received from LDP peers.
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference*
Tree	received-prefix-fecs
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec *string*

Description	The prefix FEC value in the FEC-label binding, learned in a Label Mapping message received from a peer.
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-id *reference*

Description	The LSR 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

entropy-label-transmit *boolean*

Description	Entropy label (EL/ELI) is pushed when transmitting to this peer
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* entropy-label-transmit *boolean*
Tree	entropy-label-transmit
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

next-hop index *number*

Description	List of ECMP next-hops towards the LDP peer
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* next-hop index *number*
Tree	next-hop
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

index *number*

Description	Label ID index entry
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* next-hop index *number*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *string*

Description	The outgoing interface towards the LDP peer
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* next-hop index *number* interface *string*
Tree	interface
String Length	5 to 25
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

next-hop *(ipv4-address | ipv6-address)*

Description	The IP next-hop towards the LDP peer
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* next-hop index *number* next-hop *(ipv4-address | ipv6-address)*
Tree	next-hop
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

next-hop-alternate *boolean*

Description	When set true, next-hop is alternate.
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* next-hop index *number* next-hop-alternate *boolean*
Tree	next-hop-alternate
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

not-used-reason *keyword*

Description	The reason why the label mapping is not being used in the dataplane.
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* not-used-reason *keyword*
Tree	not-used-reason
Options	• rejected-on-rx The received FEC was rejected either because non-host FEC or rejected by import policy. • exceeds-multipath-limit The LDP multipath ECMP limit has been reached • exceeds-fec-limit The FEC limit has been reached • fec-unresolved The IP prefix FEC is unused because there is no resolving route matching the IP prefix
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used-in-forwarding *boolean*

Description	Reads true if the label is used in forwarding and has been programmed for a push operation.
Context	network-instance name *string* protocols ldp ipv4 bindings received-prefix-fecs fec *string* lsr-id *reference* label-space-id *reference* used-in-forwarding *boolean*
Tree	used-in-forwarding

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec-resolution

Description	Container with options for controlling IPv4 prefix FEC resolution
Context	network-instance name *string* protocols ldp ipv4 fec-resolution
Tree	fec-resolution
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

longest-prefix *boolean*

Description	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.
Context	network-instance name *string* protocols ldp ipv4 fec-resolution longest-prefix *boolean*
Tree	longest-prefix
Default	false
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-oper-state-change *string*

Description	The last time that the IPv4 oper-state changed.
Context	network-instance name *string* protocols ldp ipv4 last-oper-state-change *string*
Tree	last-oper-state-change
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-down-reason *keyword*

Description The reason for the LDP for IPv4 being operationally down

Context network-instance name *string* protocols ldp ipv4 oper-down-reason *keyword*

Tree oper-down-reason

Options

- ldp-admin-disabled
- mpls-admin-disabled
- no-system-ipv4-address

  System IPv4 address is used as the LSR ID. If this depedency is missing LDP is down.
- net-instance-mgr-down
- label-block-unavailable
- no-resource

  Memory allocation failure
- unknown

  Other failure reason

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-up-to-down-transitions *number*

Description The number of times the oper state for IPv4 has transitioned from up to down

Context network-instance name *string* protocols ldp ipv4 oper-up-to-down-transitions *number*

Tree oper-up-to-down-transitions

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-id *string*

Description Returns the value that is being used as the LDP LSR ID. Currently, this is always the router ID of the default network-instance.

Context network-instance name *string* protocols ldp lsr-id *string*

Tree lsr-id

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multipath

Description	Container with options to configure load-balancing over equal-cost paths
Context	network-instance name *string* protocols ldp multipath
Tree	multipath
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

max-paths *number*

Description	Specifies the maximum number of next-hops used for load-balancing toward towards a given FEC
Context	network-instance name *string* protocols ldp multipath max-paths *number*
Tree	max-paths
Range	1 to 64
Default	1
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peers

Description	Configuration and state related to peers
Context	network-instance name *string* protocols ldp peers
Tree	peers
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer lsr-id *string* label-space-id *number*

Description	List of peers.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number*
Tree	peer

Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

adjacency-type *keyword*

Description	The value indicates the adjacency type.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* adjacency-type *keyword*
Tree	adjacency-type
Options	• link • targeted • both
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-of-lib

Description	Container with state information pertaining to sent and received End of LIB markers.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* end-of-lib
Tree	end-of-lib
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix-fecs

Description	Enter the ipv4-prefix-fecs context
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* end-of-lib ipv4-prefix-fecs
Tree	ipv4-prefix-fecs
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received *boolean*

Description	When this is true, an End-of-LIB marker was received from the LDP peer
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* end-of-lib ipv4-prefix-fecs received *boolean*
Tree	received
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sent *boolean*

Description	When this is true, an End-of-LIB marker was sent to the LDP peer
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* end-of-lib ipv4-prefix-fecs sent *boolean*
Tree	sent
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec-limit *number*

Description	The maximum number of FECs of all types combined that will be accepted from the peer. The value 0 implies no limit.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* fec-limit *number*
Tree	fec-limit
Default	0
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec-limit-exceeded *boolean*

Description	Reads true when the peer has sent more FECs than the configured limit.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* fec-limit-exceeded *boolean*
Tree	fec-limit-exceeded
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

graceful-restart

Description	Graceful restart operational state.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* graceful-restart
Tree	graceful-restart
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer-reconnect-time *number*

Description	The requested reconnect time.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* graceful-restart peer-reconnect-time *number*
Tree	peer-reconnect-time
Range	10 to 1800
Units	seconds

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer-recovery-time *number*

Description	The requested recovery time.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* graceful-restart peer-recovery-time *number*
Tree	peer-recovery-time
Range	30 to 3600
Default	120
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer-restarting *boolean*

Description	If true, the peer is currently in the process of restarting
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* graceful-restart peer-restarting *boolean*
Tree	peer-restarting
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-advertisement-mode

Description	Label advertisement mode state.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* label-advertisement-mode
Tree	label-advertisement-mode
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

negotiated *keyword*

Description	Negotiated Label Advertisement Mode.

Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* label-advertisement-mode negotiated *keyword*
Tree	negotiated
Options	• downstream-unsolicited Downstream Unsolicited • downstream-on-demand Downstream on Demand
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-oper-state-change *string*

Description	Last time the peer state changed.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* last-oper-state-change *string*
Tree	last-oper-state-change
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

overload

Description	Overload state of the session
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* overload
Tree	overload
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-router-is-overloaded *boolean*

Description	This router transmitted an overload TLV requesting that the peer stop advertising new FECs
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* overload local-router-is-overloaded *boolean*
Tree	local-router-is-overloaded
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer-is-overloaded *boolean*

Description	The peer has sent an overload TLV to this router requesting that we stop advertising new FECs
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* overload peer-is-overloaded *boolean*
Tree	peer-is-overloaded
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-capabilities

Description	Capabilities signalled by the peer
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities
Tree	received-capabilities
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dual-stack-capability *boolean*

Description	Dual stack capability. TLV 0x0701
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities dual-stack-capability *boolean*
Tree	dual-stack-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dynamic-capability *boolean*

Description	Dynamic capability advertisement capability. Indicates support for Capability messages. TLV 0x0506
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities dynamic-capability *boolean*
Tree	dynamic-capability
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

entropy-label-capability *boolean*

Description	Entropy label capability. TLV 0x0206
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities entropy-label-capability *boolean*
Tree	entropy-label-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

graceful-restart-capability *boolean*

Description	Fault tolerance protection TLV 0x0503
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities graceful-restart-capability *boolean*
Tree	graceful-restart-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

make-before-break-capability *boolean*

Description	Make before break capability. TLV 0x050A
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities make-before-break-capability *boolean*
Tree	make-before-break-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multipoint-to-multipoint-capability *boolean*

Description	Multipoint to multipoint FEC capability. TLV 0x0509
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities multipoint-to-multipoint-capability *boolean*
Tree	multipoint-to-multipoint-capability
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

nokia-vendor-overload-capability *boolean*

Description	Overload capability
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities nokia-vendor-overload-capability *boolean*
Tree	nokia-vendor-overload-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

point-to-multipoint-capability *boolean*

Description	Point to multipoint FEC capability. TLV 0x0508
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities point-to-multipoint-capability *boolean*
Tree	point-to-multipoint-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

state-advertisement-control

Description	State advertisement control capability. TLV 0x050D
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities state-advertisement-control
Tree	state-advertisement-control
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix-disable *boolean*

Description	Indicates desire to not receive IPv4 prefix FECs
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities state-advertisement-control ipv4-prefix-disable *boolean*
Tree	ipv4-prefix-disable
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-prefix-disable *boolean*

Description	Indicates desire to not receive IPv6 prefix FECs
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities state-advertisement-control ipv6-prefix-disable *boolean*
Tree	ipv6-prefix-disable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

p2p-pseudowire-fec-128-disable *boolean*

Description	Indicates desire to not receive P2P PW FEC 128 FECs
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities state-advertisement-control p2p-pseudowire-fec-128-disable *boolean*
Tree	p2p-pseudowire-fec-128-disable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

p2p-pseudowire-fec-129-disable *boolean*

Description	Indicates desire to not receive P2P PW FEC 129 FECs
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities state-advertisement-control p2p-pseudowire-fec-129-disable *boolean*
Tree	p2p-pseudowire-fec-129-disable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unrecognized-notification-capability *boolean*

Description	Unrecognized notification capability. TLV 0x0603
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* received-capabilities unrecognized-notification-capability *boolean*

Tree	unrecognized-notification-capability
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-holdtime

Description	Session holdtime state.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* session-holdtime
Tree	session-holdtime
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

negotiated *number*

Description	Negotiated holdtime.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* session-holdtime negotiated *number*
Tree	negotiated
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer-proposed *number*

Description	Peer holdtime.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* session-holdtime peer-proposed *number*
Tree	peer-proposed
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remaining *number*

Description	Remaining holdtime.

Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* session-holdtime remaining *number*
Tree	remaining
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-state *keyword*

Description	Representing the operational status of the LDP session.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* session-state *keyword*
Tree	session-state
Options	• non-existent NON EXISTENT state. Transport disconnected. • initialized INITIALIZED state. • openrec OPENREC state. • opensent OPENSENT state. • operational OPERATIONAL state.
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

advertised-addresses *number*

Description	The number of IPv4 addresses advertised to a peer.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics address-statistics ipv4 advertised-addresses *number*
Tree	advertised-addresses
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-addresses *number*

Description	The number of IPv4 addresses received from a peer.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics address-statistics ipv4 received-addresses *number*
Tree	received-addresses
Default	0
Configurable	False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec-statistics

Description Enter the fec-statistics context

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics fec-statistics

Tree fec-statistics

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix

Description Enter the ipv4-prefix context

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics fec-statistics ipv4-prefix

Tree ipv4-prefix

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

advertised-fecs *number*

Description 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.

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics fec-statistics ipv4-prefix advertised-fecs *number*

Tree advertised-fecs

Default 0

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-fecs *number*

Description 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.

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics fec-statistics ipv4-prefix received-fecs *number*

Tree	received-fecs
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-messages

Description	Inbound statistics.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages
Tree	received-messages
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *number*

Description	The number of address messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages address *number*
Tree	address
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address-withdraw *number*

Description	The number of address-withdraw messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages address-withdraw *number*
Tree	address-withdraw
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

capability *number*

Description	The number of messages sent or received.

Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages capability *number*
Tree	capability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

initialization *number*

Description	The number of initialization messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages initialization *number*
Tree	initialization
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

keepalive *number*

Description	The number of keepalive messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages keepalive *number*
Tree	keepalive
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-abort-request *number*

Description	The number of label-abort-request messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages label-abort-request *number*
Tree	label-abort-request
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-mapping *number*

Description	The number of label-mapping messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages label-mapping *number*
Tree	label-mapping
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-release *number*

Description	The number of label-release messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages label-release *number*
Tree	label-release
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-request *number*

Description	The number of label-request messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages label-request *number*
Tree	label-request
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-withdraw *number*

Description	The number of label-withdraw messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages label-withdraw *number*
Tree	label-withdraw
Default	0

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

notification *number*

Description	The number of messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages notification *number*
Tree	notification
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

total-messages *number*

Description	The number of messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics received-messages total-messages *number*
Tree	total-messages
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sent-messages

Description	Outbound statistics.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages
Tree	sent-messages
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *number*

Description	The number of address messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages address *number*

Tree	address
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address-withdraw *number*

Description	The number of address-withdraw messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages address-withdraw *number*
Tree	address-withdraw
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

capability *number*

Description	The number of messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages capability *number*
Tree	capability
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

initialization *number*

Description	The number of initialization messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages initialization *number*
Tree	initialization
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

keepalive *number*

Description	The number of keepalive messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages keepalive *number*
Tree	keepalive
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-abort-request *number*

Description	The number of label-abort-request messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages label-abort-request *number*
Tree	label-abort-request
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-mapping *number*

Description	The number of label-mapping messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages label-mapping *number*
Tree	label-mapping
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-release *number*

Description	The number of label-release messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages label-release *number*
Tree	label-release
Default	0

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-request *number*

Description	The number of label-request messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages label-request *number*
Tree	label-request
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-withdraw *number*

Description	The number of label-withdraw messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages label-withdraw *number*
Tree	label-withdraw
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

notification *number*

Description	The number of messages sent or received.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages notification *number*
Tree	notification
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

total-messages *number*

Description	The number of messages sent or received.

Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* statistics sent-messages total-messages *number*
Tree	total-messages
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tcp-transport

Description	Enter the tcp-transport context
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* tcp-transport
Tree	tcp-transport
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-address *string*

Description	Local address.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* tcp-transport local-address *string*
Tree	local-address
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-port *number*

Description	Local port number.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* tcp-transport local-port *number*
Tree	local-port
Range	0 to 65535
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-address *string*

Description Remote address.

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* tcp-transport remote-address *string*

Tree remote-address

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-port *number*

Description Remote port number.

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* tcp-transport remote-port *number*

Tree remote-port

Range 0 to 65535

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options

Description Configure event/packet tracing for one specific session.

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* trace-options

Tree trace-options

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace *keyword*

Description Specifies the trace information to be captured.

Context network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number* trace-options trace *keyword*

Tree trace

Options

- all

  Trace all events and packets
- events-all

  Trace all events

- events-session

  Trace session related events
- events-binding

  Trace binding related events
- messages-all

  Trace all LDP messages
- messages-all-detail

  Trace all LDP messages with detailed output
- messages-initialization

  Trace LDP Initialization packets
- messages-initialization-detail

  Trace LDP Initialization packets with detailed output
- messages-keepalive

  Trace LDP Keepalive packets
- messages-label

  Trace LDP Label Mapping, Label Request, Label Abort Request, Label Withdraw and Label Release packets
- messages-label-detail

  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

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-keepalive-holdtime *number*

Description 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.

Context network-instance name *string* protocols ldp peers session-keepalive-holdtime *number*

Tree session-keepalive-holdtime

Range 45 to 3600

Default 180

Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-keepalive-interval *number*

Description	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.
Context	network-instance name *string* protocols ldp peers session-keepalive-interval *number*
Tree	session-keepalive-interval
Range	15 to 1200
Default	60
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options

Description	Configure event/packet tracing for all sessions (configured and dynamic).
Context	network-instance name *string* protocols ldp peers trace-options
Tree	trace-options
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace *keyword*

Description	Specifies the trace information to be captured.
Context	network-instance name *string* protocols ldp peers trace-options trace *keyword*
Tree	trace
Options	• all Trace all events and packets • events-all Trace all events • events-session

Trace session related events

- events-binding

  Trace binding related events

- messages-all

  Trace all LDP messages

- messages-all-detail

  Trace all LDP messages with detailed output

- messages-initialization

  Trace LDP Initialization packets

- messages-initialization-detail

  Trace LDP Initialization packets with detailed output

- messages-keepalive

  Trace LDP Keepalive packets

- messages-label

  Trace LDP Label Mapping, Label Request, Label Abort Request, Label Withdraw and Label Release packets

- messages-label-detail

  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

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description LDP instance level statistics

Context network-instance name *string* protocols ldp statistics

Tree statistics

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fec-statistics

Description	Enter the fec-statistics context
Context	network-instance name *string* protocols ldp statistics fec-statistics
Tree	fec-statistics
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-prefix

Description	Enter the ipv4-prefix context
Context	network-instance name *string* protocols ldp statistics fec-statistics ipv4-prefix
Tree	ipv4-prefix
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

advertised-fecs *number*

Description	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.
Context	network-instance name *string* protocols ldp statistics fec-statistics ipv4-prefix advertised-fecs *number*
Tree	advertised-fecs
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

received-fecs *number*

Description	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.
Context	network-instance name *string* protocols ldp statistics fec-statistics ipv4-prefix received-fecs *number*
Tree	received-fecs
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocol-errors

Description	Enter the protocol-errors context
Context	network-instance name *string* protocols ldp statistics protocol-errors
Tree	protocol-errors
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-ldp-identifier *number*

Description	The number of notification messages sent to advise of a bad LDP identifier
Context	network-instance name *string* protocols ldp statistics protocol-errors bad-ldp-identifier *number*
Tree	bad-ldp-identifier
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-message-length *number*

Description	The number of notification messages sent to advise of a bad message length
Context	network-instance name *string* protocols ldp statistics protocol-errors bad-message-length *number*
Tree	bad-message-length
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-pdu-length *number*

Description	The number of notification messages sent to advise of a bad PDU length
Context	network-instance name *string* protocols ldp statistics protocol-errors bad-pdu-length *number*
Tree	bad-pdu-length
Default	0
Configurable	False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-protocol-version *number*

Description	The number of notification messages sent to advise of a bad protocol version
Context	network-instance name *string* protocols ldp statistics protocol-errors bad-protocol-version *number*
Tree	bad-protocol-version
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

bad-tlv-length *number*

Description	The number of notification messages sent to advise of a bad TLV length
Context	network-instance name *string* protocols ldp statistics protocol-errors bad-tlv-length *number*
Tree	bad-tlv-length
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

malformed-tlv-value *number*

Description	The number of notification messages sent to advise of a malformed TLV value
Context	network-instance name *string* protocols ldp statistics protocol-errors malformed-tlv-value *number*
Tree	malformed-tlv-value
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

missing-message-parameters *number*

Description	The number of notification messages sent to advise of missing mandatory parameters

Context	network-instance name *string* protocols ldp statistics protocol-errors missing-message-parameters *number*
Tree	missing-message-parameters
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-rejected-bad-keepalive-time *number*

Description	The number of notification messages sent to advise that a TCP connection was closed because the requested keepalive time is not acceptable
Context	network-instance name *string* protocols ldp statistics protocol-errors session-rejected-bad-keepalive-time *number*
Tree	session-rejected-bad-keepalive-time
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-rejected-no-hello *number*

Description	The number of notification messages sent to advise that a TCP connection was closed because there was no matching Hello adjacency
Context	network-instance name *string* protocols ldp statistics protocol-errors session-rejected-no-hello *number*
Tree	session-rejected-no-hello
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-rejected-parameters-adv-mode *number*

Description	The number of notification messages sent to advise that a TCP connection was closed because the requested label advertisement mode is not acceptable
Context	network-instance name *string* protocols ldp statistics protocol-errors session-rejected-parameters-adv-mode *number*
Tree	session-rejected-parameters-adv-mode
Default	0

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-rejected-parameters-label-range *number*

Description	The number of notification messages sent to advise that a TCP connection was closed because the requested label range is not acceptable
Context	network-instance name *string* protocols ldp statistics protocol-errors session-rejected-parameters-label-range *number*
Tree	session-rejected-parameters-label-range
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-rejected-parameters-max-pdu-length *number*

Description	The number of notification messages sent to advise that a TCP connection was closed because the requested Maximum PDU Length is not acceptable
Context	network-instance name *string* protocols ldp statistics protocol-errors session-rejected-parameters-max-pdu-length *number*
Tree	session-rejected-parameters-max-pdu-length
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unknown-message-type *number*

Description	The number of notification messages sent to advise of an unknown message type
Context	network-instance name *string* protocols ldp statistics protocol-errors unknown-message-type *number*
Tree	unknown-message-type
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unknown-tlv *number*

Description	The number of notification messages sent to advise of an unknown TLV
Context	network-instance name *string* protocols ldp statistics protocol-errors unknown-tlv *number*
Tree	unknown-tlv
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unsupported-address-family *number*

Description	The number of notification messages sent to advise that a TCP connection was closed because the FEC type is not IPv4
Context	network-instance name *string* protocols ldp statistics protocol-errors unsupported-address-family *number*
Tree	unsupported-address-family
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

linux

Description	Enables routing interaction with the Linux kernel
Context	network-instance name *string* protocols linux
Tree	linux
Configurable	True
Platforms	Supported on all platforms

export-neighbors *boolean*

Description	Export neighbors to linux routing table
Context	network-instance name *string* protocols linux export-neighbors *boolean*
Tree	export-neighbors
Default	true
Configurable	True
Platforms	Supported on all platforms

export-routes *boolean*

Description	Export routes to linux routing table
Context	network-instance name *string* protocols linux export-routes *boolean*
Tree	export-routes
Default	false
Configurable	True
Platforms	Supported on all platforms

import-routes *boolean*

Description	Import routes from linux routing table
Context	network-instance name *string* protocols linux import-routes *boolean*
Tree	import-routes
Default	false
Configurable	True
Platforms	Supported on all platforms

ospf

Description	Top-level configuration and operational state for Open Shortest Path First (OSPF)
Context	network-instance name *string* protocols ospf
Tree	ospf
Configurable	True
Platforms	Supported on all platforms

instance name *string*

Description	List of OSPF protocol instances associated with this network-instance.
Context	network-instance name *string* protocols ospf instance name *string*
Tree	instance
Configurable	True
Platforms	Supported on all platforms
Max. Elements	3

name *string*

Description	The name of the OSPF instance
Context	network-instance name *string* protocols ospf instance name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

address-family *identityref*

Description	The address family that this instance supports. Only valid for OSPFv3.
Context	network-instance name *string* protocols ospf instance name *string* address-family *identityref*
Tree	address-family
Options	• ipv6-unicast IPv6 unicast address family • ipv4-unicast IPv4 unicast address family
Configurable	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

Description the area identifier as a dotted-quad.

Context network-instance name *string* protocols ospf instance name *string* area area-id

Configurable True

Platforms Supported on all platforms

active-interfaces *number*

Description The number of active interfaces in this area.

Context network-instance name *string* protocols ospf instance name *string* area area-id active-interfaces *number*

Tree active-interfaces

Configurable False

Platforms Supported on all platforms

advertise-router-capability *boolean*

Description	Allow router advertisement capabilities
Context	network-instance name *string* protocols ospf instance name *string* area area-id advertise-router-capability *boolean*
Tree	advertise-router-capability
Default	true
Configurable	True
Platforms	Supported on all platforms

area-bdr-rtr-count

Description	The total number of area border routers reachable within this area.
Context	network-instance name *string* protocols ospf instance name *string* area area-id area-bdr-rtr-count
Tree	area-bdr-rtr-count
Configurable	False
Platforms	Supported on all platforms

area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*

Description	Enter the area-range context
Context	network-instance name *string* protocols ospf instance name *string* area area-id area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*
Tree	area-range
Configurable	True
Platforms	Supported on all platforms

ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*

Description	ip-prefix with host bits set to 0
Context	network-instance name *string* protocols ospf instance name *string* area area-id area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*
Configurable	True
Platforms	Supported on all platforms

advertise *boolean*

Description	Advertise summarized range of addresses to other areas
Context	network-instance name *string* protocols ospf instance name *string* area area-id area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)* advertise *boolean*
Tree	advertise
Default	true
Configurable	True
Platforms	Supported on all platforms

as-bdr-rtr-count

Description	The total number of autonomous system border routers reachable within this area.
Context	network-instance name *string* protocols ospf instance name *string* area area-id as-bdr-rtr-count
Tree	as-bdr-rtr-count
Configurable	False
Platforms	Supported on all platforms

blackhole-aggregate *boolean*

Description	Enables the creation of a blackhole for generated aggregates
Context	network-instance name *string* protocols ospf instance name *string* area area-id blackhole-aggregate *boolean*
Tree	blackhole-aggregate
Default	true
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id export-policy *reference*
Tree	export-policy

Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

full-spf-runs

Description	The total number of times that complete SPF has been run on the router since OSPF was last enabled.
Context	network-instance name *string* protocols ospf instance name *string* area area-id full-spf-runs
Tree	full-spf-runs
Configurable	False
Platforms	Supported on all platforms

interface interface-name *string*

Description	List of OSPF interfaces
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

interface-name *string*

Description	Router logical interface name.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string*
String Length	5 to 25
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administrative state of the OSPF
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* admin-state *keyword*

Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

advertise-router-capability *boolean*

Description	Allow router advertisement capabilities
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* advertise-router-capability *boolean*
Tree	advertise-router-capability
Default	true
Configurable	True
Platforms	Supported on all platforms

advertise-subnet *boolean*

Description	Advertise point-to-point interfaces as subnet routes
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* advertise-subnet *boolean*
Tree	advertise-subnet
Default	true
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Container with authentication options that apply to all peers in this peer-group
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* authentication
Tree	authentication
Configurable	True
Platforms	Supported on all platforms

keychain *reference*

Description	Reference to a keychain. The keychain type must be ospf
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* authentication keychain *reference*
Tree	keychain
Reference	system authentication keychain name *string*
Configurable	True
Platforms	Supported on all platforms

bad-packets

Description	Bad packets counters
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets
Tree	bad-packets
Configurable	False
Platforms	Supported on all platforms

auth-failures

Description	The total number of OSPF packets received with an invalid authorization key 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* bad-packets auth-failures
Tree	auth-failures
Configurable	False
Platforms	Supported on all platforms

bad-area

Description	The total number of OSPF packets received with an area mismatch 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* bad-packets bad-area
Tree	bad-area
Configurable	False

Platforms	Supported on all platforms

bad-auth-type

Description	The total number of OSPF packets received with an invalid authorization type 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* bad-packets bad-auth-type
Tree	bad-auth-type
Configurable	False
Platforms	Supported on all platforms

bad-checksum

Description	The count of LS-as received with bad checksums.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-checksum
Tree	bad-checksum
Configurable	False
Platforms	Supported on all platforms

bad-dead-interval

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-dead-interval
Tree	bad-dead-interval
Configurable	False
Platforms	Supported on all platforms

bad-dest-address

Description	The total number of OSPF packets received with the incorrect IP destination address 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* bad-packets bad-dest-address

Tree	bad-dest-address
Configurable	False
Platforms	Supported on all platforms

bad-hello-interval

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-hello-interval
Tree	bad-hello-interval
Configurable	False
Platforms	Supported on all platforms

bad-length

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-length
Tree	bad-length
Configurable	False
Platforms	Supported on all platforms

bad-neighbors

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-neighbors
Tree	bad-neighbors
Configurable	False
Platforms	Supported on all platforms

bad-network

Description The total number of OSPF packets received with invalid network or mask 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* bad-packets bad-network

Tree bad-network

Configurable False

Platforms Supported on all platforms

bad-options

Description 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'.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-options

Tree bad-options

Configurable False

Platforms Supported on all platforms

bad-packet-type

Description The total number of OSPF packets received with an invalid OSPF packet type 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* bad-packets bad-packet-type

Tree bad-packet-type

Configurable False

Platforms Supported on all platforms

bad-version

Description The total number of OSPF packets received with bad OSPF version numbers 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* bad-packets bad-version

Tree bad-version

Configurable False

Platforms	Supported on all platforms

bad-virtual-link

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bad-packets bad-virtual-link
Tree	bad-virtual-link
Configurable	False
Platforms	Supported on all platforms

bdr-id

Description	the value of BDR-id indicates the router ID of the backup designated router.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* bdr-id
Tree	bdr-id
Configurable	False
Platforms	Supported on all platforms

dead-interval *number*

Description	Time OSPF waits without receiving Hello packets before declaring a neighbor down
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* dead-interval *number*
Tree	dead-interval
Range	2 to 65535
Default	40
Units	seconds
Configurable	True
Platforms	Supported on all platforms

dr-id

Description	the value of DR-id indicates the router ID of the designated router.

Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* dr-id
Tree	dr-id
Configurable	False
Platforms	Supported on all platforms

events

Description	the value of events indicates the number of times this OSPF interface has changed its state, or an error has occurred.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* events
Tree	events
Configurable	False
Platforms	Supported on all platforms

failure-detection

Description	Options related to methods of detecting BGP session failure
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* failure-detection
Tree	failure-detection
Configurable	True
Platforms	Supported on all platforms

enable-bfd *boolean*

Description	Enables the use of BFD for livliness detection
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* failure-detection enable-bfd *boolean*
Tree	enable-bfd
Default	false
Configurable	True
Platforms	Supported on all platforms

hello-interval *number*

Description	Time between OSPF Hellos of this interface
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* hello-interval *number*
Tree	hello-interval
Range	1 to 65535
Default	10
Units	seconds
Configurable	True
Platforms	Supported on all platforms

interface-type *keyword*

Description	Interface type to broadcast or point-to-point
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* interface-type *keyword*
Tree	interface-type
Options	• broadcast • point-to-point
Configurable	True
Platforms	Supported on all platforms

last-enabled-time

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* last-enabled-time
Tree	last-enabled-time
Configurable	False
Platforms	Supported on all platforms

last-event-time *string*

Description	the value of last-event-time indicates the value of sys-up-time when an event was last associated with this OSPF interface.

Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* last-event-time *string*
Tree	last-event-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

ldp-synchronization

Description	Container with configuration options and state that pertains to the operation of LDP-IGP synchronization on this interface.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* ldp-synchronization
Tree	ldp-synchronization
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

disable

Description	Disable LDP-IGP synchronization procedures on this interface, even if synchronization is enabled globally
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* ldp-synchronization disable
Tree	disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

duration *number*

Description	The length of time that the IGP interface has been in sync or out of sync
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* ldp-synchronization duration *number*
Tree	duration
Units	seconds
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-of-lib *boolean*

Description 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.

This overrides the global/instance level setting.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* ldp-synchronization end-of-lib *boolean*

Tree end-of-lib

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hold-down-timer *number*

Description 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.

This overrides the global/instance level setting.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* ldp-synchronization hold-down-timer *number*

Tree hold-down-timer

Range 1 to 1800

Units seconds

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sync-state *keyword*

Description The current state of the interface with respect to LDP-IGP sync

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* ldp-synchronization sync-state *keyword*

Tree sync-state

Options

- wait-for-LDP-adjacency

  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 aadveertised 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

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

link-lsa-cksum-sum *string*

Description 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.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* link-lsa-cksum-sum *string*

Tree link-lsa-cksum-sum

Configurable False

Platforms Supported on all platforms

link-lsa-count

Description the value of link-lsa-count indicates the total number of link-scope link-state advertisements in this link's link-state database.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* link-lsa-count

Tree link-lsa-count

Configurable False

Platforms Supported on all platforms

local-ip-address *(ipv4-address | ipv6-address)*

Description the value of local-ip-address indicates the IP address of this OSPF interface.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* local-ip-address *(ipv4-address | ipv6-address)*

Tree local-ip-address

Configurable False

Platforms Supported on all platforms

lsa-filter-out *keyword*

Description LSA flooding reduction

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* lsa-filter-out *keyword*

Tree lsa-filter-out

Default none

Options

- none
- all
- except-own-rtrlsa
- except-own-rtrlsa-and-defaults

Configurable True

Platforms Supported on all platforms

lsa-totals

Description The number of LSAs of each type in this interface's database

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* lsa-totals

Tree lsa-totals

Configurable False

Platforms Supported on all platforms

e-link-lsa

Description The number of extended link LSAs in this interface's database.

Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* lsa-totals e-link-lsa
Tree	e-link-lsa
Configurable	False
Platforms	Supported on all platforms

link-lsa

Description	The number of link LSAs in this interface's database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* lsa-totals link-lsa
Tree	link-lsa
Configurable	False
Platforms	Supported on all platforms

link-opaque-lsa

Description	The number of link opaque LSAs in this interface's database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* lsa-totals link-opaque-lsa
Tree	link-opaque-lsa
Configurable	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
Tree	neighbor
Configurable	False
Platforms	Supported on all platforms

router-id

Description	The router-id advertised by the neighbor
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id
Configurable	False
Platforms	Supported on all platforms

address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description the value of address indicates the IP address of the neighbor associated with the local link.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Tree address

Configurable False

Platforms Supported on all platforms

adjacency-state *identityref*

Description Current OSPF Neighbor state

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id adjacency-state *identityref*

Tree adjacency-state

Options

- down

  The initial state of a neighbor, indicating that no recent information has been received from the neighbor.

- 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.

- init

  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

Configurable False

Platforms Supported on all platforms

backup-designated-router

Description Advertised backup designated router

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id backup-designated-router

Tree backup-designated-router

Configurable False

Platforms Supported on all platforms

dead-time *number*

Description The remaining number of seconds remaining in the neighbor's dead time interval

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id dead-time *number*

Tree dead-time

Configurable False

Platforms Supported on all platforms

designated-router

Description Advertised designated router

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id designated-router

Tree designated-router

Configurable False

Platforms Supported on all platforms

last-established-time *number*

Description	Time then OSPF neighbor was last established
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id last-established-time *number*
Tree	last-established-time
Configurable	False
Platforms	Supported on all platforms

last-event-time

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id last-event-time
Tree	last-event-time
Configurable	False
Platforms	Supported on all platforms

last-restart-time

Description	the value of last-restart-time indicates the last time the neighbor attempted restart.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id last-restart-time
Tree	last-restart-time
Configurable	False
Platforms	Supported on all platforms

optional-capabilities

Description	Advertised Optional Capabilities
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id optional-capabilities
Tree	optional-capabilities
Configurable	False
Platforms	Supported on all platforms

priority *number*

Description	Router priority advertised by neighbor
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id priority *number*
Tree	priority
Configurable	False
Platforms	Supported on all platforms

restart-helper-age *number*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id restart-helper-age *number*
Tree	restart-helper-age
Range	0 to 1800
Units	seconds
Configurable	False
Platforms	Supported on all platforms

restart-helper-exit-rc *keyword*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id restart-helper-exit-rc *keyword*
Tree	restart-helper-exit-rc
Options	• none • in-progress • completed • timed-out

- topology-changed
- bfd-down

Configurable False

Platforms Supported on all platforms

restart-helper-status *keyword*

Description the value of restart-helper-status indicates whether the router is acting as a graceful restart helper for the neighbor.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id restart-helper-status *keyword*

Tree restart-helper-status

Options

- not-helping
- helping

Configurable False

Platforms Supported on all platforms

restart-reason *(number | keyword)*

Description the value of restart-reason indicates the OSPF neighbor's graceful restart reason.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id restart-reason *(number | keyword)*

Tree restart-reason

Range 4 to 4294967295

Options

- unknown
- sw-restart
- sw-reload
- switch-red

Configurable False

Platforms Supported on all platforms

retransmission-queue-length *number*

Description Enter the retransmission-queue-length context

Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id retransmission-queue-length *number*
Tree	retransmission-queue-length
Configurable	False
Platforms	Supported on all platforms

state-changes *number*

Description	total numer of OSPF state changes
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id state-changes *number*
Tree	state-changes
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

bad-mtu

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics bad-mtu
Tree	bad-mtu
Configurable	False
Platforms	Supported on all platforms

bad-nbr-states

Description 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'.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics bad-nbr-states

Tree bad-nbr-states

Configurable False

Platforms Supported on all platforms

bad-packets

Description 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'.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics bad-packets

Tree bad-packets

Configurable False

Platforms Supported on all platforms

bad-seq-nums

Description 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'.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics bad-seq-nums

Tree bad-seq-nums

Configurable False

Platforms Supported on all platforms

duplicates

Description 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'.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics duplicates

Tree	duplicates
Configurable	False
Platforms	Supported on all platforms

events

Description	the value of events indicates the number of times this neighbor relationship has changed state, or an error has occurred.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics events
Tree	events
Configurable	False
Platforms	Supported on all platforms

lsa-install-failed

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics lsa-install-failed
Tree	lsa-install-failed
Configurable	False
Platforms	Supported on all platforms

lsa-not-in-lsdbs

Description	the value of lsa-not-in-lsdbs 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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics lsa-not-in-lsdbs
Tree	lsa-not-in-lsdbs
Configurable	False
Platforms	Supported on all platforms

num-restarts

Description	the value of num-restarts indicates the number of times the neighbor has attempted restart.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics num-restarts
Tree	num-restarts
Configurable	False
Platforms	Supported on all platforms

option-mismatches

Description	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'.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id statistics option-mismatches
Tree	option-mismatches
Configurable	False
Platforms	Supported on all platforms

up-time *number*

Description	the value of up-time indicates the uninterrupted time, in hundredths of seconds, the adjacency to this neighbour has been up.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor router-id up-time *number*
Tree	up-time
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

neighbor-count

Description	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'.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbor-count

Tree neighbor-count

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description the OSPF interface state.

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* oper-state *keyword*

Tree oper-state

Options

- down
- loopback
- waiting
- point-to-point
- designated-router
- backup-designated-router
- other-designated-router

Configurable False

Platforms Supported on all platforms

packets

Description Packet counters

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* packets

Tree packets

Configurable False

Platforms Supported on all platforms

discarded

Description The total number of OSPF packets discarded 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 discarded

Tree	discarded
Configurable	False
Platforms	Supported on all platforms

retransmits

Description	The total number of OSPF retransmits 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 retransmits
Tree	retransmits
Configurable	False
Platforms	Supported on all platforms

rx-db-description

Description	The total number of OSPF database description 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-db-description
Tree	rx-db-description
Configurable	False
Platforms	Supported on all platforms

rx-hello

Description	The total number of OSPF hello 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-hello
Tree	rx-hello
Configurable	False
Platforms	Supported on all platforms

rx-ls-ack

Description	The total number of link state acknowledgements 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-ls-ack
Tree	rx-ls-ack
Configurable	False
Platforms	Supported on all platforms

rx-ls-request

Description	The total number of link state requests (LS-rs) 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-ls-request
Tree	rx-ls-request
Configurable	False
Platforms	Supported on all platforms

rx-ls-update

Description	The total number of link state updates (LS-us) 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-ls-update
Tree	rx-ls-update
Configurable	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

Tree tx-ls-ack

Configurable False

Platforms Supported on all platforms

tx-ls-request

Description The total number of OSPF link state requests (LS-rs)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-request

Tree tx-ls-request

Configurable False

Platforms Supported on all platforms

tx-ls-update

Description The total number of OSPF link state updates (LS-us) 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-update

Tree tx-ls-update

Configurable False

Platforms Supported on all platforms

tx-total

Description The total number of OSPF 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-total

Tree tx-total

Configurable False

Platforms Supported on all platforms

passive *boolean*

Description Allow interface to be advertised as an OSPF interface without running the OSPF protocol

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* passive *boolean*

Tree passive

Configurable True

Platforms Supported on all platforms

priority *number*

Description Priority of the interface to apply in the designated router election on the subnet

Context network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* priority *number*

Tree priority

Range 0 to 255

Default	1
Configurable	True
Platforms	Supported on all platforms

retransmit-interval *number*

Description	Time before OSPF retransmits an unacknowledged LSA to a neighbor
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* retransmit-interval *number*
Tree	retransmit-interval
Range	1 to 1800
Default	5
Units	seconds
Configurable	True
Platforms	Supported on all platforms

trace-options

Description	Enter the trace-options context
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* trace-options
Tree	trace-options
Configurable	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

Description	To enable detailed tracing. Includes both received and sent packets.
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-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* area area-id interface interface-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* area area-id interface interface-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

Configurable True

Platforms Supported on all platforms

transit-delay *number*

Description	Time required to transmit an LSA on the interface, virtual link, or sham link
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* transit-delay *number*
Tree	transit-delay
Range	1 to 1800
Default	1
Units	seconds
Configurable	True
Platforms	Supported on all platforms

last-spf-run-time

Description	The sys-up-time when intra-area SPF was last run on this area.
Context	network-instance name *string* protocols ospf instance name *string* area area-id last-spf-run-time
Tree	last-spf-run-time
Configurable	False
Platforms	Supported on all platforms

lsa-filter-totals

Description	The number of LSAs not sent due to area policy.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-filter-totals
Tree	lsa-filter-totals
Configurable	False
Platforms	Supported on all platforms

export-filtered

Description	The number of LSAs not sent due to area export policy.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-filter-totals export-filtered
Tree	export-filtered
Configurable	False

Platforms	Supported on all platforms

import-filtered

Description	The number of LSAs not sent due to area import policy.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-filter-totals import-filtered
Tree	import-filtered
Configurable	False
Platforms	Supported on all platforms

lsa-totals

Description	The number of LSAs of each type in this area's database
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals
Tree	lsa-totals
Configurable	False
Platforms	Supported on all platforms

area-opaque-lsa

Description	The number of NSSA LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals area-opaque-lsa
Tree	area-opaque-lsa
Configurable	False
Platforms	Supported on all platforms

asbr-summary-lsa

Description	The number of ASBR summary LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals asbr-summary-lsa
Tree	asbr-summary-lsa
Configurable	False
Platforms	Supported on all platforms

e-inter-area-prefix-lsa

Description	The number of OSPFv3 E-inter-area-prefix LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals e-inter-area-prefix-lsa
Tree	e-inter-area-prefix-lsa
Configurable	False
Platforms	Supported on all platforms

e-inter-area-router-lsa

Description	The number of OSPFv3 E-inter-area-router LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals e-inter-area-router-lsa
Tree	e-inter-area-router-lsa
Configurable	False
Platforms	Supported on all platforms

e-intra-area-prefix-lsa

Description	The number of OSPFv3 E-intra-area-prefix LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals e-intra-area-prefix-lsa
Tree	e-intra-area-prefix-lsa
Configurable	False
Platforms	Supported on all platforms

e-network-lsa

Description	The number of OSPFv3 E-network LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals e-network-lsa
Tree	e-network-lsa
Configurable	False
Platforms	Supported on all platforms

e-nssa-lsa

Description	The number of OSPFv3 E-NSSA LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals e-nssa-lsa
Tree	e-nssa-lsa
Configurable	False
Platforms	Supported on all platforms

e-router-lsa

Description	The number of OSPFv3 E-router LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals e-router-lsa
Tree	e-router-lsa
Configurable	False
Platforms	Supported on all platforms

inter-area-prefix-lsa

Description	The number of OSPFv3 inter-area-prefix LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals inter-area-prefix-lsa
Tree	inter-area-prefix-lsa
Configurable	False
Platforms	Supported on all platforms

inter-area-router-lsa

Description	The number of OSPFv3 inter-area-router LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals inter-area-router-lsa
Tree	inter-area-router-lsa
Configurable	False
Platforms	Supported on all platforms

intra-area-prefix-lsa

Description	The number of OSPFv3 intra-area-prefix LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals intra-area-prefix-lsa
Tree	intra-area-prefix-lsa
Configurable	False
Platforms	Supported on all platforms

network-lsa

Description	The number of network LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals network-lsa
Tree	network-lsa
Configurable	False
Platforms	Supported on all platforms

network-summary-lsa

Description	The number of network summary LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals network-summary-lsa
Tree	network-summary-lsa
Configurable	False
Platforms	Supported on all platforms

nssa-lsa

Description	The number of NSSA LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals nssa-lsa
Tree	nssa-lsa
Configurable	False
Platforms	Supported on all platforms

router-info-lsa

Description	The number of OSPFv3 router-info LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals router-info-lsa
Tree	router-info-lsa
Configurable	False
Platforms	Supported on all platforms

router-lsa

Description	The number of router LSAs in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals router-lsa
Tree	router-lsa
Configurable	False
Platforms	Supported on all platforms

total

Description	The number of area scope LSAs within this area.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals total
Tree	total
Configurable	False
Platforms	Supported on all platforms

total-lsa-cksum-sum *string*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals total-lsa-cksum-sum *string*
Tree	total-lsa-cksum-sum
Configurable	False
Platforms	Supported on all platforms

unknown-lsa

Description	The number of unknown LSA advertisements in this area's link-state database.
Context	network-instance name *string* protocols ospf instance name *string* area area-id lsa-totals unknown-lsa
Tree	unknown-lsa
Configurable	False
Platforms	Supported on all platforms

nssa

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa
Tree	nssa
Configurable	True
Platforms	Supported on all platforms

area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*

Description	Enter the area-range context
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*
Tree	area-range
Configurable	True
Platforms	Supported on all platforms

ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*

Description	ip-prefix with host bits set to 0
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)*

Configurable	True
Platforms	Supported on all platforms

advertise *boolean*

Description	Advertise summarized range of addresses to other areas
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa area-range ip-prefix-mask *(ipv4-prefix | ipv6-prefix)* advertise *boolean*
Tree	advertise
Default	true
Configurable	True
Platforms	Supported on all platforms

originate-default-route

Description	Enter the originate-default-route context
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa originate-default-route
Tree	originate-default-route
Configurable	True
Platforms	Supported on all platforms

adjacency-check *boolean*

Description	Default route to remove if there is no adjacency
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa originate-default-route adjacency-check *boolean*
Tree	adjacency-check
Default	true
Configurable	True
Platforms	Supported on all platforms

type-nssa *boolean*

Description	Generate a default route using NSSA-LSA type
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa originate-default-route type-nssa *boolean*

Tree	type-nssa
Default	false
Configurable	True
Platforms	Supported on all platforms

redistribute-external *boolean*

Description	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
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa redistribute-external *boolean*
Tree	redistribute-external
Default	true
Configurable	True
Platforms	Supported on all platforms

summaries *boolean*

Description	Enables sending summary (type 3) advertisements into a stub area or Not So Stubby Area (NSSA) on an Area Border Router (ABR)
Context	network-instance name *string* protocols ospf instance name *string* area area-id nssa summaries *boolean*
Tree	summaries
Default	true
Configurable	True
Platforms	Supported on all platforms

stub

Description	Enable the stub context
Context	network-instance name *string* protocols ospf instance name *string* area area-id stub
Tree	stub
Configurable	True
Platforms	Supported on all platforms

default-metric *number*

Description	Defines the default OSPF metric for associated stub area
Context	network-instance name *string* protocols ospf instance name *string* area area-id stub default-metric *number*
Tree	default-metric
Range	1 to 65535
Default	1
Configurable	True
Platforms	Supported on all platforms

summaries *boolean*

Description	Enables sending summary (type 3) advertisements into a stub area or Not So Stubby Area (NSSA) on an Area Border Router (ABR)
Context	network-instance name *string* protocols ospf instance name *string* area area-id stub summaries *boolean*
Tree	summaries
Default	true
Configurable	True
Platforms	Supported on all platforms

area-border-router *boolean*

Description	This indicates whether this router is an area border router.
Context	network-instance name *string* protocols ospf instance name *string* area-border-router *boolean*
Tree	area-border-router
Configurable	False
Platforms	Supported on all platforms

as-border-router *boolean*

Description	This indicates whether this router is an AS border router.
Context	network-instance name *string* protocols ospf instance name *string* as-border-router *boolean*
Tree	as-border-router
Configurable	False

Platforms	Supported on all platforms

asbr

Description	Configure the router as an ASBR (Autonomous System Boundary Router)
Context	network-instance name *string* protocols ospf instance name *string* asbr
Tree	asbr
Configurable	True
Platforms	Supported on all platforms

trace-path *(number | keyword)*

Description	Domain identity
Context	network-instance name *string* protocols ospf instance name *string* asbr trace-path *(number | keyword)*
Tree	trace-path
Range	0 to 31
Default	none
Options	• none
Configurable	True
Platforms	Supported on all platforms

backbone-router *boolean*

Description	This indicates whether or not this router is configured as an OSPF back bone router.
Context	network-instance name *string* protocols ospf instance name *string* backbone-router *boolean*
Tree	backbone-router
Configurable	False
Platforms	Supported on all platforms

export-limit

Description	Enter the export-limit context
Context	network-instance name *string* protocols ospf instance name *string* export-limit

Tree	export-limit
Configurable	True
Platforms	Supported on all platforms

log-percent *number*

Description	Export limit at which warning a log message and SNMP notification are sent
Context	network-instance name *string* protocols ospf instance name *string* export-limit log-percent *number*
Tree	log-percent
Range	1 to 100
Configurable	True
Platforms	Supported on all platforms

number *number*

Description	Maximum number of routes or prefixes to be exported into IGP instance from route table
Context	network-instance name *string* protocols ospf instance name *string* export-limit number *number*
Tree	number
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

export-policy *reference*

Description	Apply an export policy to redistribute routes into OSPF
Context	network-instance name *string* protocols ospf instance name *string* export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

extern-lsa-cksum-sum *string*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* extern-lsa-cksum-sum *string*
Tree	extern-lsa-cksum-sum
Configurable	False
Platforms	Supported on all platforms

extern-lsa-count

Description	the value of extern-lsa-count indicates the number of external LS-as (LS type 0x4005) in the link-state database
Context	network-instance name *string* protocols ospf instance name *string* extern-lsa-count
Tree	extern-lsa-count
Configurable	False
Platforms	Supported on all platforms

external-db-overflow

Description	Enable the external-db-overflow context
Context	network-instance name *string* protocols ospf instance name *string* external-db-overflow
Tree	external-db-overflow
Configurable	True
Platforms	Supported on all platforms

interval *number*

Description	Enter the interval context
Context	network-instance name *string* protocols ospf instance name *string* external-db-overflow interval *number*
Tree	interval
Range	0 to 2147483647

Default	0
Units	seconds
Configurable	True
Platforms	Supported on all platforms

limit *number*

Description	Enter the limit context
Context	network-instance name *string* protocols ospf instance name *string* external-db-overflow limit *number*
Tree	limit
Range	0 to 2147483647
Default	0
Configurable	True
Platforms	Supported on all platforms

external-preference *number*

Description	Configure the route preference associated with OSPF external routes
Context	network-instance name *string* protocols ospf instance name *string* external-preference *number*
Tree	external-preference
Default	150
Configurable	True
Platforms	Supported on all platforms

graceful-restart

Description	Container for options related to OSPF graceful restart
Context	network-instance name *string* protocols ospf instance name *string* graceful-restart
Tree	graceful-restart
Configurable	True
Platforms	Supported on all platforms

helper-mode *boolean*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* graceful-restart helper-mode *boolean*
Tree	helper-mode
Default	false
Configurable	True
Platforms	Supported on all platforms

strict-lsa-checking *boolean*

Description	Enter the strict-lsa-checking context
Context	network-instance name *string* protocols ospf instance name *string* graceful-restart strict-lsa-checking *boolean*
Tree	strict-lsa-checking
Default	false
Configurable	True
Platforms	Supported on all platforms

instance-id *number*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* instance-id *number*
Tree	instance-id
Range	0 to 255
Configurable	True
Platforms	Supported on all platforms

last-disabled-reason *string*

Description	Reason why the disabled state was entered the last time.

Context	network-instance name *string* protocols ospf instance name *string* last-disabled-reason *string*
Tree	last-disabled-reason
String Length	0 to 20
Configurable	False
Platforms	Supported on all platforms

last-enabled-time *string*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* last-enabled-time *string*
Tree	last-enabled-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-overflow-entered-time *string*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* last-overflow-entered-time *string*
Tree	last-overflow-entered-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-overflow-exit-time *string*

Description	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.

Context	network-instance name *string* protocols ospf instance name *string* last-overflow-exit-time *string*
Tree	last-overflow-exit-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-overload-enter-code *keyword*

Description	the value of last-overload-enter-code indicates the condition which caused OSPF to get into overload.
Context	network-instance name *string* protocols ospf instance name *string* last-overload-enter-code *keyword*
Tree	last-overload-enter-code
Options	• none • spf-failed • boot-overload • manual-overload • sfm-overload • fib-add-fail • rtm-add-fail • rtr-adv-lsa-limit
Configurable	False
Platforms	Supported on all platforms

last-overload-entered-time *string*

Description	the value of last-overload-entrd-time indicates the time at which the system last went into overload state.
Context	network-instance name *string* protocols ospf instance name *string* last-overload-entered-time *string*
Tree	last-overload-entered-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-overload-exit-code *keyword*

Description	the value of last-overload-exit-code indicates the reason why OSPF came out of overload state the last time, since reset.
Context	network-instance name *string* protocols ospf instance name *string* last-overload-exit-code *keyword*
Tree	last-overload-exit-code
Options	• none • bgp-sig-recv • timer-expired • manual-exit • sfm-overload-done
Configurable	False
Platforms	Supported on all platforms

last-overload-exit-time *string*

Description	the value of last-overload-exit-time indicates the time at which the system last came out of overload state.
Context	network-instance name *string* protocols ospf instance name *string* last-overload-exit-time *string*
Tree	last-overload-exit-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

ldp-synchronization

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* ldp-synchronization
Tree	ldp-synchronization
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-of-lib *boolean*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* ldp-synchronization end-of-lib *boolean*
Tree	end-of-lib
Default	false
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hold-down-timer *number*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* ldp-synchronization hold-down-timer *number*
Tree	hold-down-timer
Range	1 to 1800
Default	60
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsa-totals

Description	The number of LSAs of each type in this instance's AS database
Context	network-instance name *string* protocols ospf instance name *string* lsa-totals
Tree	lsa-totals
Configurable	False
Platforms	Supported on all platforms

as-external-lsa

Description The number of AS External LSAs in this instance's AS database.

Context network-instance name *string* protocols ospf instance name *string* lsa-totals as-external-lsa

Tree as-external-lsa

Configurable False

Platforms Supported on all platforms

as-opaque-lsa

Description The number of AS opaque LSAs in this instance's AS database.

Context network-instance name *string* protocols ospf instance name *string* lsa-totals as-opaque-lsa

Tree as-opaque-lsa

Configurable False

Platforms Supported on all platforms

e-as-external-lsa

Description The number of extended AS External LSAs in this instance's AS database.

Context network-instance name *string* protocols ospf instance name *string* lsa-totals e-as-external-lsa

Tree e-as-external-lsa

Configurable False

Platforms Supported on all platforms

router-info-lsa

Description The number of AS scoped router information LSAs in this instance's AS database.

Context network-instance name *string* protocols ospf instance name *string* lsa-totals router-info-lsa

Tree router-info-lsa

Configurable False

Platforms Supported on all platforms

max-ecmp-paths *number*

Description	The maximum number of ECMP next-hops to program into the FIB for every IP prefix
Context	network-instance name *string* protocols ospf instance name *string* max-ecmp-paths *number*
Tree	max-ecmp-paths
Range	1 to 64
Default	1
Configurable	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*
Tree	oper-state
Options	• enable • disable
Configurable	False
Platforms	Supported on all platforms

overflow *boolean*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* overflow *boolean*
Tree	overflow
Configurable	False
Platforms	Supported on all platforms

overload

Description	Enter the overload context
Context	network-instance name *string* protocols ospf instance name *string* overload
Tree	overload
Configurable	True
Platforms	Supported on all platforms

active *boolean*

Description	Enter the active context

Context	network-instance name *string* protocols ospf instance name *string* overload active *boolean*
Tree	active
Default	false
Configurable	True
Platforms	Supported on all platforms

overload-include-ext-1 *boolean*

Description	Enter the overload-include-ext-1 context
Context	network-instance name *string* protocols ospf instance name *string* overload overload-include-ext-1 *boolean*
Tree	overload-include-ext-1
Default	false
Configurable	True
Platforms	Supported on all platforms

overload-include-ext-2 *boolean*

Description	Enter the overload-include-ext-2 context
Context	network-instance name *string* protocols ospf instance name *string* overload overload-include-ext-2 *boolean*
Tree	overload-include-ext-2
Default	false
Configurable	True
Platforms	Supported on all platforms

overload-include-stub *boolean*

Description	Enter the overload-include-stub context
Context	network-instance name *string* protocols ospf instance name *string* overload overload-include-stub *boolean*
Tree	overload-include-stub
Default	false
Configurable	True
Platforms	Supported on all platforms

overload-on-boot

Description	Enable the overload-on-boot context
Context	network-instance name *string* protocols ospf instance name *string* overload overload-on-boot
Tree	overload-on-boot
Configurable	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*
Tree	max-lsa-count
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

overload-timeout *number*

Description	Enter the overload-timeout context
Context	network-instance name *string* protocols ospf instance name *string* overload rtr-adv-lsa-limit overload-timeout *number*
Tree	overload-timeout
Range	1 to 1800
Configurable	True
Platforms	Supported on all platforms

warning-threshold *number*

Description	Enter the warning-threshold context
Context	network-instance name *string* protocols ospf instance name *string* overload rtr-adv-lsa-limit warning-threshold *number*
Tree	warning-threshold
Range	0 to 100
Default	0
Configurable	True
Platforms	Supported on all platforms

overload-rem-interval *number*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* overload-rem-interval *number*
Tree	overload-rem-interval
Range	0 to 65535
Units	seconds
Configurable	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 prefence 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: cost = reference-bandwidth / 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

Description	SPF related information
Context	network-instance name *string* protocols ospf instance name *string* spf
Tree	spf
Configurable	False
Platforms	Supported on all platforms

avg-spf-run-interval *number*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* spf avg-spf-run-interval *number*
Tree	avg-spf-run-interval
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

ext-spf-runs

Description	The total number of times that only the external portion of the SPF has been run since OSPF was last enabled.
Context	network-instance name *string* protocols ospf instance name *string* spf ext-spf-runs
Tree	ext-spf-runs

Configurable	False
Platforms	Supported on all platforms

full-spf-runs

Description	The total number of times that complete SPF has been run on the router since OSPF was last enabled.
Context	network-instance name *string* protocols ospf instance name *string* spf full-spf-runs
Tree	full-spf-runs
Configurable	False
Platforms	Supported on all platforms

incremental-ext-spf-runs

Description	The total number of incremental SPF runs triggered by new or updated external LS-as.
Context	network-instance name *string* protocols ospf instance name *string* spf incremental-ext-spf-runs
Tree	incremental-ext-spf-runs
Configurable	False
Platforms	Supported on all platforms

incremental-inter-spf-runs

Description	The total number of incremental SPF runs triggered by new or updated inter-area prefix or inter-area router LS-as.
Context	network-instance name *string* protocols ospf instance name *string* spf incremental-inter-spf-runs
Tree	incremental-inter-spf-runs
Configurable	False
Platforms	Supported on all platforms

last-ext-spf

Description	Information about the last external SPF run
Context	network-instance name *string* protocols ospf instance name *string* spf last-ext-spf

Tree	last-ext-spf
Configurable	False
Platforms	Supported on all platforms

interval *number*

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* spf last-ext-spf interval *number*
Tree	interval
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

run-time *string*

Description	the value of last-ext-spf-run-time indicates the value of sys-up-time when the external OSPF dijkstra (SPF) was last run.
Context	network-instance name *string* protocols ospf instance name *string* spf last-ext-spf run-time *string*
Tree	run-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-full-spf

Description	Information about the last full SPF run
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf
Tree	last-full-spf
Configurable	False
Platforms	Supported on all platforms

extern-spf-time *number*

Description	Time it toook, in hundredths of seconds, to complete the external LSA calculations.
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf extern-spf-time *number*
Tree	extern-spf-time
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

inter-spf-time *number*

Description	Time it toook, in hundredths of seconds, to complete the inter-area SPF calculations.
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf inter-spf-time *number*
Tree	inter-spf-time
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

intra-spf-time *number*

Description	Time it toook, in hundredths of seconds, to complete the intra-area SPF calculations.
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf intra-spf-time *number*
Tree	intra-spf-time
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

rtm-update-time *number*

Description	Time it toook, in hundredths of seconds, to complete the RTM updates.
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf rtm-update-time *number*
Tree	rtm-update-time
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

run-time *string*

Description	the value of last-full-spf-run-time indicates the time at which the system last performed a full dijkstra (SPF) run.
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf run-time *string*
Tree	run-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

total-time *number*

Description	Time it toook, in hundredths of seconds, to complete the last SPF run completely.
Context	network-instance name *string* protocols ospf instance name *string* spf last-full-spf total-time *number*
Tree	total-time
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

max-spf-run-interval *number*

Description	the value of max-spf-run-interval indicates the maximum time, in hundredths of seconds, used to perform a total SPF calculation.

Context	network-instance name *string* protocols ospf instance name *string* spf max-spf-run-interval *number*
Tree	max-spf-run-interval
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

min-spf-run-interval *number*

Description	the value of min-spf-run-interval indicates the minimum time, in hundredths of seconds, used to perform a total SPF calculation.
Context	network-instance name *string* protocols ospf instance name *string* spf min-spf-run-interval *number*
Tree	min-spf-run-interval
Range	0 to 2147483647
Units	centiseconds
Configurable	False
Platforms	Supported on all platforms

spf-attempts-failed

Description	The number of times an attempt to run SPF has failed because SPF runs have been stopped as a result of insufficient memory resources.
Context	network-instance name *string* protocols ospf instance name *string* spf spf-attempts-failed
Tree	spf-attempts-failed
Configurable	False
Platforms	Supported on all platforms

timers

Description	Enter the timers context
Context	network-instance name *string* protocols ospf instance name *string* timers
Tree	timers
Configurable	True
Platforms	Supported on all platforms

incremental-spf-wait *number*

Description	Delay time before an incremental SPF calculation is started
Context	network-instance name *string* protocols ospf instance name *string* timers incremental-spf-wait *number*
Tree	incremental-spf-wait
Range	0 to 1000
Default	1000
Configurable	True
Platforms	Supported on all platforms

lsa-accumulate *number*

Description	Delay time for accumulating multiple LSAs before advertising them to neighbors
Context	network-instance name *string* protocols ospf instance name *string* timers lsa-accumulate *number*
Tree	lsa-accumulate
Range	0 to 1000
Default	1000
Configurable	True
Platforms	Supported on all platforms

lsa-arrival *number*

Description	Minimum delay between receipt of the same LSAs arriving from neighbors
Context	network-instance name *string* protocols ospf instance name *string* timers lsa-arrival *number*
Tree	lsa-arrival
Range	0 to 600000
Default	1000
Configurable	True
Platforms	Supported on all platforms

lsa-generate

Description	Enter the lsa-generate context

Context	network-instance name *string* protocols ospf instance name *string* timers lsa-generate
Tree	lsa-generate
Configurable	True
Platforms	Supported on all platforms

lsa-initial-wait *number*

Description	First waiting period between link state advertisements LSA originates
Context	network-instance name *string* protocols ospf instance name *string* timers lsa-generate lsa-initial-wait *number*
Tree	lsa-initial-wait
Range	10 to 600000
Default	5000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

lsa-second-wait *number*

Description	Hold time between the first and second LSA generation
Context	network-instance name *string* protocols ospf instance name *string* timers lsa-generate lsa-second-wait *number*
Tree	lsa-second-wait
Range	10 to 600000
Default	5000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

max-lsa-wait *number*

Description	Maximum time between two consecutive occurrences of an LSA being generated
Context	network-instance name *string* protocols ospf instance name *string* timers lsa-generate max-lsa-wait *number*
Tree	max-lsa-wait

Range	10 to 600000
Default	5000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

redistribute-delay *number*

Description	Hold down timer for external routes that are redistributed in OSPF
Context	network-instance name *string* protocols ospf instance name *string* timers redistribute-delay *number*
Tree	redistribute-delay
Range	0 to 1000
Default	1000
Configurable	True
Platforms	Supported on all platforms

spf-wait

Description	Enter the spf-wait context
Context	network-instance name *string* protocols ospf instance name *string* timers spf-wait
Tree	spf-wait
Configurable	True
Platforms	Supported on all platforms

spf-initial-wait *number*

Description	Initial SPF calculation delay after a topology change
Context	network-instance name *string* protocols ospf instance name *string* timers spf-wait spf-initial-wait *number*
Tree	spf-initial-wait
Range	10 to 100000
Default	1000
Units	milliseconds
Configurable	True

Platforms	Supported on all platforms

spf-max-wait *number*

Description	Maximum interval between two consecutive SPF calculations
Context	network-instance name *string* protocols ospf instance name *string* timers spf-wait spf-max-wait *number*
Tree	spf-max-wait
Range	10 to 120000
Default	10000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

spf-second-wait *number*

Description	Hold time between the first and second SPF calculation
Context	network-instance name *string* protocols ospf instance name *string* timers spf-wait spf-second-wait *number*
Tree	spf-second-wait
Range	10 to 100000
Default	1000
Units	milliseconds
Configurable	True
Platforms	Supported on all platforms

total-exported-routes

Description	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.
Context	network-instance name *string* protocols ospf instance name *string* total-exported-routes
Tree	total-exported-routes
Configurable	False
Platforms	Supported on all platforms

trace-options

Description	Enter the trace-options context
Context	network-instance name *string* protocols ospf instance name *string* trace-options
Tree	trace-options
Configurable	True
Platforms	Supported on all platforms

trace

Description	Tracing parameter flags
Context	network-instance name *string* protocols ospf instance 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* trace-options trace adjacencies
Tree	adjacencies
Configurable	True
Platforms	Supported on all platforms

graceful-restart

Description	Enable tracing all graceful-restart events.
Context	network-instance name *string* protocols ospf instance name *string* trace-options trace graceful-restart
Tree	graceful-restart
Configurable	True
Platforms	Supported on all platforms

interfaces

Description	Enable tracing all interface events.
Context	network-instance name *string* protocols ospf instance name *string* trace-options trace interfaces
Tree	interfaces
Configurable	True
Platforms	Supported on all platforms

lsdb

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 lsdb
Tree	lsdb
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 lsdb 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 lsdb 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 lsdb 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

Configurable True

Platforms Supported on all platforms

routes

Description Enable the routes context

Context network-instance name *string* protocols ospf instance name *string* trace-options trace routes

Tree routes

Configurable True

Platforms Supported on all platforms

dest-address *(ipv4-address | ipv6-address)*

Description Enter the dest-address context

Context network-instance name *string* protocols ospf instance name *string* trace-options trace routes dest-address *(ipv4-address | ipv6-address)*

Tree dest-address

Configurable True

Platforms Supported on all platforms

spf

Description Enable the spf context

Context network-instance name *string* protocols ospf instance name *string* trace-options trace spf

Tree spf

Configurable True

Platforms Supported on all platforms

dest-address *(ipv4-address | ipv6-address)*

Description Enter the dest-address context

Context network-instance name *string* protocols ospf instance name *string* trace-options trace spf dest-address *(ipv4-address | ipv6-address)*

Tree dest-address

Configurable True

Platforms Supported on all platforms

version *identityref*

Description The version that this ospf instance supports.

Context network-instance name *string* protocols ospf instance name *string* version *identityref*

Tree version

Options

- ospf-v2

  Version 2 of the OSPF protocol
- ospf-v3

  Version 3 of the OSPF protocol

Configurable True

Platforms Supported on all platforms

route-table

Description Enter the route-table context

Context	network-instance name *string* route-table
Tree	route-table
Configurable	False
Platforms	Supported on all platforms

ipv4-unicast

Description	The container for the IPv4 unicast routing table of the network instance.
Context	network-instance name *string* route-table ipv4-unicast
Tree	ipv4-unicast
Configurable	False
Platforms	Supported on all platforms

route ipv4-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 ipv4-unicast route ipv4-prefix *string* route-type *identityref* route-owner *string* id *number* origin-network-instance *reference*
Tree	route
Configurable	False
Platforms	Supported on all platforms

ipv4-prefix *string*

Description	The IPv4 prefix associated with the 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

route-type *identityref*

Description	The type 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*

Options

- aggregate

  Locally configured aggregate route
- arp-nd

  IP route added by ARP ND.
- bgp

  Border Gateway Protocol version 4
- bgp-label

  Border Gateway Protocol labeled routes
- bgp-evpn

  BGP Ethernet VPN (EVPN)
- bgp-vpn

  Border Gateway Protocol VPN routes
- 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*

Description	An owner-assigned index value that is unique for each of the routes for a given prefix.
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

origin-network-instance *reference*

Description	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.
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*
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

active *boolean*

Description	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.
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* active *boolean*
Tree	active
Configurable	False
Platforms	Supported on all platforms

fib-programming

Description	Container for state related to the FIB programming of the object
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* fib-programming
Tree	fib-programming
Configurable	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 ipv4-unicast route ipv4-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 ipv4-unicast route ipv4-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.

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* fib-programming last-successful-operation-timestamp *string*

Tree last-successful-operation-timestamp

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

last-successful-operation-type *keyword*

Description The last operation type that completed successfully, if the entry was not suppressed.

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* fib-programming last-successful-operation-type *keyword*

Tree last-successful-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

pending-operation-type *keyword*

Description The current operation type that is in progress because not all complexes have responded.

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* fib-programming pending-operation-type *keyword*

Tree pending-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

suppressed *boolean*

Description When true, FIB programming for this entry has been suppressed and it is only installed in the control plane route table

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* fib-programming suppressed *boolean*

Tree suppressed

Configurable	False
Platforms	Supported on all platforms

gribi-metadata *binary*

Description	Metadata persistently stored with the entry.
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* gribi-metadata *binary*
Tree	gribi-metadata
String Length	0 to 8
Configurable	False
Platforms	Supported on all platforms

last-app-update *string*

Description	The date and time of the last update of this route by the owning application or protocol.
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* last-app-update *string*
Tree	last-app-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

leakable *boolean*

Description	Reads true when the route was matched and accepted by the route-leaking inter-instance export-policy
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* leakable *boolean*
Tree	leakable
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description	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.
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* metric *number*
Tree	metric
Configurable	False
Platforms	Supported on all platforms

next-hop-group *reference*

Description	The next-hop-group indirection object used by this 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* 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-hop-group-network-instance *reference*

Description	The network instance where the next-hop-group can be found. If unspecified, the next hop group is in the local network instance.
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* next-hop-group-network-instance *reference*
Tree	next-hop-group-network-instance
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

preference *number*

Description	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.
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* preference *number*
Tree	preference
Configurable	False
Platforms	Supported on all platforms

resilient-hash *boolean*

Description	Set to true if the route is covered by a resilient-hash-prefix entry
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* resilient-hash *boolean*
Tree	resilient-hash
Configurable	False
Platforms	Supported on all platforms

target-network-instances *reference*

Description	List of network-instances that have imported this route as a result of matching and accepting it in their inter-instance import-policy
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* target-network-instances *reference*
Tree	target-network-instances
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

route-summary

Description	Route summary information
Context	network-instance name *string* route-table ipv4-unicast route-summary
Tree	route-summary

Configurable	False
Platforms	Supported on all platforms

route-type ip-route-type-name *identityref*

Description	Enter the route-type list instance
Context	network-instance name *string* route-table ipv4-unicast route-summary route-type ip-route-type-name *identityref*
Tree	route-type
Configurable	False
Platforms	Supported on all platforms

ip-route-type-name *identityref*

Description	IP route type
Context	network-instance name *string* route-table ipv4-unicast route-summary route-type ip-route-type-name *identityref*
Options	• aggregate Locally configured aggregate route • arp-nd IP route added by ARP ND. • bgp Border Gateway Protocol version 4 • bgp-label Border Gateway Protocol labeled routes • bgp-evpn BGP Ethernet VPN (EVPN) • bgp-vpn Border Gateway Protocol VPN routes • 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 ipv4-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 ipv4-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 ipv4-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 ipv4-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 ipv4-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 ipv4-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 ipv4-unicast statistics total-routes *number*
Tree	total-routes
Default	0
Configurable	False
Platforms	Supported on all platforms

ipv6-unicast

Description	The container for the IPv6 unicast routing table of the network instance.
Context	network-instance name *string* route-table ipv6-unicast
Tree	ipv6-unicast
Configurable	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-label

  Border Gateway Protocol labeled routes
- bgp-evpn

  BGP Ethernet VPN (EVPN)
- bgp-vpn

  Border Gateway Protocol VPN routes
- 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 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

id *number*

Description An owner-assigned index value that is unique for each of the routes for a given prefix.

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

origin-network-instance *reference*

Description 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.

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*

Reference network-instance name *string*

Configurable False

Platforms Supported on all platforms

active *boolean*

Description	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.
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* active *boolean*
Tree	active
Configurable	False
Platforms	Supported on all platforms

fib-programming

Description	Container for state related to the FIB programming of the object
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
Tree	fib-programming
Configurable	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.

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-successful-operation-timestamp *string*

Tree last-successful-operation-timestamp

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

last-successful-operation-type *keyword*

Description The last operation type that completed successfully, if the entry was not suppressed.

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-successful-operation-type *keyword*

Tree last-successful-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

pending-operation-type *keyword*

Description The current operation type that is in progress because not all complexes have responded.

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 pending-operation-type *keyword*

Tree pending-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

suppressed *boolean*

Description When true, FIB programming for this entry has been suppressed and it is only installed in the control plane route table

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 suppressed *boolean*

Tree	suppressed
Configurable	False
Platforms	Supported on all platforms

gribi-metadata *binary*

Description	Metadata persistently stored with the entry.
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* gribi-metadata *binary*
Tree	gribi-metadata
String Length	0 to 8
Configurable	False
Platforms	Supported on all platforms

last-app-update *string*

Description	The date and time of the last update of this route by the owning application or protocol.
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* last-app-update *string*
Tree	last-app-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

leakable *boolean*

Description	Reads true when the route was matched and accepted by the route-leaking inter-instance export-policy
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* leakable *boolean*
Tree	leakable
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

metric *number*

Description	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.
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* metric *number*
Tree	metric
Configurable	False
Platforms	Supported on all platforms

next-hop-group *reference*

Description	The next-hop-group indirection object used by this 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* 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-hop-group-network-instance *reference*

Description	The network instance where the next-hop-group can be found. If unspecified, the next hop group is in the local network 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* next-hop-group-network-instance *reference*
Tree	next-hop-group-network-instance
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

preference *number*

Description	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.
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* preference *number*
Tree	preference
Configurable	False
Platforms	Supported on all platforms

resilient-hash *boolean*

Description	Set to true if the route is covered by a resilient-hash-prefix entry
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* resilient-hash *boolean*
Tree	resilient-hash
Configurable	False
Platforms	Supported on all platforms

target-network-instances *reference*

Description	List of network-instances that have imported this route as a result of matching and accepting it in their inter-instance import-policy
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* target-network-instances *reference*
Tree	target-network-instances
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

route-summary

Description	Route summary information
Context	network-instance name *string* route-table ipv6-unicast route-summary
Tree	route-summary

Configurable	False
Platforms	Supported on all platforms

route-type ip-route-type-name *identityref*

Description	Enter the route-type list instance
Context	network-instance name *string* route-table ipv6-unicast route-summary route-type ip-route-type-name *identityref*
Tree	route-type
Configurable	False
Platforms	Supported on all platforms

ip-route-type-name *identityref*

Description	IP route type
Context	network-instance name *string* route-table ipv6-unicast route-summary route-type ip-route-type-name *identityref*
Options	• aggregate Locally configured aggregate route • arp-nd IP route added by ARP ND. • bgp Border Gateway Protocol version 4 • bgp-label Border Gateway Protocol labeled routes • bgp-evpn BGP Ethernet VPN (EVPN) • bgp-vpn Border Gateway Protocol VPN routes • 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
Configurable	False
Platforms	Supported on all platforms

label-value *number*

Description	The MPLS label value
Context	network-instance name *string* route-table mpls label-entry label-value *number*
Range	16 to 1048575
Configurable	False
Platforms	Supported on all platforms

entry-type *identityref*

Description The entry type of the MPLS FIB entry.

Context network-instance name *string* route-table mpls label-entry label-value *number* entry-type *identityref*

Tree entry-type

Options

- esi

  ESI mpls label entry, used by BGP-EVPN

- ldp

  Label distribution protocol

- network-instance

  Network Instance mpls label entry, used by EVPN or IP-VPN

- sr-mpls

  Segment routing using MPLS dataplane, programmed by segment routing manager.

- static-mpls

  Locally configured static MPLS route.

Configurable False

Platforms Supported on all platforms

last-app-update *string*

Description The date and time of the last update of this MPLS label entry by the owning application or protocol.

Context network-instance name *string* route-table mpls label-entry label-value *number* last-app-update *string*

Tree last-app-update

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

next-bgp-instance *reference*

Description Enter the next-bgp-instance context

Context network-instance name *string* route-table mpls label-entry label-value *number* next-bgp-instance *reference*

Tree next-bgp-instance

Reference	network-instance name *string* protocols bgp-vpn bgp-instance id *number*
Configurable	False
Platforms	Supported on all platforms

next-ethernet-segment *reference*

Description	If this ILM entry is for a pop label, and this label is below an EVPN label at the bottom of the stack, the label will identify an Ethernet Segment and forwarding in the network-instance may exclude the bridged subinterfaces associated with the Ethernet Segment
Context	network-instance name *string* route-table mpls label-entry label-value *number* next-ethernet-segment *reference*
Tree	next-ethernet-segment
Reference	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

Description	Enter the statistics context
Context	network-instance name *string* route-table mpls statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-entries *number*

Description	The total number of MPLS entries that are active in the FIB.
Context	network-instance name *string* route-table mpls statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

next-hop index *number*

Description	Enter the next-hop list instance
Context	network-instance name *string* route-table next-hop index *number*
Tree	next-hop

Configurable	False
Platforms	Supported on all platforms

index *number*

Description	A system-wide unique identifier of a next-hop object (system allocated).
Context	network-instance name *string* route-table next-hop index *number*
Configurable	False
Platforms	Supported on all platforms

decapsulate-header *keyword*

Description	Packets matching this next-hop are decapsulated by removing the specified header.
Context	network-instance name *string* route-table next-hop index *number* decapsulate-header *keyword*
Tree	decapsulate-header
Options	• gre The encapsulation header is a Generic Routing Encapsulation header. • ipv4 The encapsulation header is an IPv4 packet header • ipv6 The encapsulation header is an IPv6 packet header • mpls The encapsulation header is one or more MPLS labels indicated by the pushed and popped label stack lists.
Configurable	False
Platforms	Supported on all platforms

encapsulate-header *keyword*

Description	Packets matching this next-hop are encapsulated by adding the specified header.
Context	network-instance name *string* route-table next-hop index *number* encapsulate-header *keyword*
Tree	encapsulate-header
Options	• gre

The encapsulation header is a Generic Routing Encapsulation header.

- ipv4

  The encapsulation header is an IPv4 packet header

- ipv6

  The encapsulation header is an IPv6 packet header

- mpls

  The encapsulation header is one or more MPLS labels indicated by the pushed and popped label stack lists.

Configurable False

Platforms Supported on all platforms

ip-address *(ipv4-address | ipv6-address)*

Description 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.

Context network-instance name *string* route-table next-hop index *number* ip-address *(ipv4-address | ipv6-address)*

Tree ip-address

Configurable False

Platforms Supported on all platforms

ip-in-ip

Description Specifies details of the IP-in-IP header added to the packet. This is valid only when encapsulate-header is ipv4 or ipv6

Context network-instance name *string* route-table next-hop index *number* ip-in-ip

Tree ip-in-ip

Configurable False

Platforms Supported on all platforms

dst-ip *(ipv4-address | ipv6-address)*

Description Destination IP address to use for the encapsulated packet.

Context network-instance name *string* route-table next-hop index *number* ip-in-ip dst-ip *(ipv4-address | ipv6-address)*

Tree dst-ip

Configurable	False
Platforms	Supported on all platforms

src-ip *(ipv4-address | ipv6-address)*

Description	Source IP address to use for the encapsulated packet.
Context	network-instance name *string* route-table next-hop index *number* ip-in-ip src-ip *(ipv4-address | ipv6-address)*
Tree	src-ip
Configurable	False
Platforms	Supported on all platforms

mac-address *string*

Description	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.
Context	network-instance name *string* route-table next-hop index *number* mac-address *string*
Tree	mac-address
Configurable	False
Platforms	Supported on all platforms

mpls

Description	Enter the mpls context
Context	network-instance name *string* route-table next-hop index *number* mpls
Tree	mpls
Configurable	False
Platforms	Supported on all platforms

entropy-label-transmit *boolean*

Description	Entropy label (EL/ELI) is pushed when transmitting to this next-hop
Context	network-instance name *string* route-table next-hop index *number* mpls entropy-label-transmit *boolean*
Tree	entropy-label-transmit

Configurable	False
Platforms	Supported on all platforms

pushed-mpls-label-stack *(number | keyword)*

Description	The list of MPLS labels to push onto the packet when forwarding to this particular next-hop.
Context	network-instance name *string* route-table next-hop index *number* mpls pushed-mpls-label-stack *(number | keyword)*
Tree	pushed-mpls-label-stack
Range	16 to 1048575
Options	• IPV4_EXPLICIT_NULL • IPV6_EXPLICIT_NULL • IMPLICIT_NULL
Configurable	False
Platforms	Supported on all platforms
Max. Elements	1

network-instance *reference*

Description	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.
Context	network-instance name *string* route-table next-hop index *number* network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

programmed-index *number*

Description	The index assigned to the next-hop by the gRIBI client
Context	network-instance name *string* route-table next-hop index *number* programmed-index *number*
Tree	programmed-index
Configurable	False

Platforms	Supported on all platforms

resolving-route

Description	Enter the resolving-route context
Context	network-instance name *string* route-table next-hop index *number* resolving-route
Tree	resolving-route
Configurable	False
Platforms	Supported on all platforms

ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description	The prefix of the resolving route.
Context	network-instance name *string* route-table next-hop index *number* resolving-route ip-prefix *(ipv4-prefix | ipv6-prefix)*
Tree	ip-prefix
Configurable	False
Platforms	Supported on all platforms

route-owner *string*

Description	The application name of the owner of the resolving route.
Context	network-instance name *string* route-table next-hop index *number* resolving-route route-owner *string*
Tree	route-owner
Configurable	False
Platforms	Supported on all platforms

route-type *identityref*

Description	The type of the resolving route.
Context	network-instance name *string* route-table next-hop index *number* resolving-route route-type *identityref*
Tree	route-type
Options	• aggregate Locally configured aggregate route

- arp-nd
  IP route added by ARP ND.
- bgp
  Border Gateway Protocol version 4
- bgp-label
  Border Gateway Protocol labeled routes
- bgp-evpn
  BGP Ethernet VPN (EVPN)
- bgp-vpn
  Border Gateway Protocol VPN routes
- 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

resolving-tunnel

Description Enter the resolving-tunnel context

Context network-instance name *string* route-table next-hop index *number* resolving-tunnel

Tree resolving-tunnel

Configurable False

Platforms Supported on all platforms

ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description The prefix of the resolving tunnel.

Context network-instance name *string* route-table next-hop index *number* resolving-tunnel ip-prefix *(ipv4-prefix | ipv6-prefix)*

Tree ip-prefix

Configurable False

Platforms Supported on all platforms

tunnel-owner *string*

Description The application name of the owner of the resolving tunnel.

Context network-instance name *string* route-table next-hop index *number* resolving-tunnel tunnel-owner *string*

Tree tunnel-owner

Configurable False

Platforms Supported on all platforms

tunnel-type *identityref*

Description The type of the tunnel.

Context network-instance name *string* route-table next-hop index *number* resolving-tunnel tunnel-type *identityref*

Tree tunnel-type

Options

- ip-in-ip

  Tunnels with IP-in-IP encapsulation
- sr-isis

  Segment routing using MPLS dataplane, programmed by IS-IS
- sr-ospfv2

Segment routing using MPLS dataplane, programmed by OSPFv2

- sr-ospfv3

  Segment routing using MPLS dataplane, programmed by OSPFv3

- sr-policy-mpls-colored

  Tunnel setup using TE-POLICY.

- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.

- vxlan

  Tunnels based on VXLAN encapsulation

Configurable False

Platforms Supported on all platforms

subinterface *reference*

Description The next-hop interface. Only populated when the next-hop type is direct.

Context network-instance name *string* route-table next-hop index *number* subinterface *reference*

Tree subinterface

Reference interface name *string* subinterface index *number* name *string*

Configurable False

Platforms Supported on all platforms

type *identityref*

Description The next-hop type used by the datapath.

Context network-instance name *string* route-table next-hop index *number* type *identityref*

Tree type

Options

- extract

  Next-hop will cause matching packets to be delivered to the CPM.

- direct

  Next-hop was resolved by a local route - i.e. it is an address on a connected subnet.

- discard

  Next-hop will cause matching packets to be dropped without ICMP generation.

- reject

Next-hop will cause matching packets to be dropped with ICMP generation.

- indirect

  Next-hop was resolved by a non-local route - i.e. it is not an address on a connected subnet.

- mpls

  An MPLS label will be pushed when forwarding to this next-hop.

- tunnel

  Next-hop is a tunnel.

- broadcast

  Next-hop will cause matching subnet-bradcast packets to be delivered to the control plane.

- redirect

  Next-hop will redirect to another network-instance.

- interface-with-mac

  Next-hop is associated with an outbound interface plus MAC address

Configurable False

Platforms Supported on all platforms

vxlan

Description Enter the vxlan context

Context network-instance name *string* route-table next-hop index *number* vxlan

Tree vxlan

Configurable False

Platforms Supported on all platforms

destination-mac *string*

Description VXLAN inner ethernet destination mac-address.

Context network-instance name *string* route-table next-hop index *number* vxlan destination-mac *string*

Tree destination-mac

Configurable False

Platforms Supported on all platforms

source-mac *string*

Description	VXLAN inner ethernet source mac-address.
Context	network-instance name *string* route-table next-hop index *number* vxlan source-mac *string*
Tree	source-mac
Configurable	False
Platforms	Supported on all platforms

vni *number*

Description	VXLAN Network Identifier of the destination.
Context	network-instance name *string* route-table next-hop index *number* vxlan vni *number*
Tree	vni
Range	1 to 16777215
Configurable	False
Platforms	Supported on all platforms

next-hop-group index *number*

Description	Enter the next-hop-group list instance
Context	network-instance name *string* route-table next-hop-group index *number*
Tree	next-hop-group
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	A system-wide unique identifier of a next-hop-group indirection object (system allocated).
Context	network-instance name *string* route-table next-hop-group index *number*
Configurable	False
Platforms	Supported on all platforms

backup-next-hop id *number*

Description	List of backup next-hops associated with the NHG

Context network-instance name *string* route-table next-hop-group index *number* backup-next-hop id *number*

Tree backup-next-hop

Configurable False

Platforms Supported on all platforms

id *number*

Description A unique identifier of a next-hop member (system allocated).

Context network-instance name *string* route-table next-hop-group index *number* backup-next-hop id *number*

Range 0 to 1023

Configurable False

Platforms Supported on all platforms

next-hop *reference*

Description Enter the next-hop context

Context network-instance name *string* route-table next-hop-group index *number* backup-next-hop id *number* next-hop *reference*

Tree next-hop

Reference network-instance name *string* route-table next-hop index *number*

Configurable False

Platforms Supported on all platforms

resolved *keyword*

Description Set to true when the next-hop was resolved. This reads not-applicable for resolve=false next-hops.

Context network-instance name *string* route-table next-hop-group index *number* backup-next-hop id *number* resolved *keyword*

Tree resolved

Options

- true
- false
- not-applicable

Configurable False

Platforms Supported on all platforms

backup-next-hop-group *reference*

Description	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.
Context	network-instance name *string* route-table next-hop-group index *number* backup-next-hop-group *reference*
Tree	backup-next-hop-group
Reference	network-instance name *string* route-table next-hop-group index *number*
Configurable	False
Platforms	Supported on all platforms

fib-programming

Description	Container for state related to the FIB programming of the object
Context	network-instance name *string* route-table next-hop-group index *number* fib-programming
Tree	fib-programming
Configurable	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 next-hop-group index *number* 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 next-hop-group index *number* 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.

Context network-instance name *string* route-table next-hop-group index *number* fib-programming last-successful-operation-timestamp *string*

Tree last-successful-operation-timestamp

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

last-successful-operation-type *keyword*

Description The last operation type that completed successfully, if the entry was not suppressed.

Context network-instance name *string* route-table next-hop-group index *number* fib-programming last-successful-operation-type *keyword*

Tree last-successful-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

pending-operation-type *keyword*

Description The current operation type that is in progress because not all complexes have responded.

Context network-instance name *string* route-table next-hop-group index *number* fib-programming pending-operation-type *keyword*

Tree pending-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

suppressed *boolean*

Description When true, FIB programming for this entry has been suppressed and it is only installed in the control plane route table

Context network-instance name *string* route-table next-hop-group index *number* fib-programming suppressed *boolean*

Tree suppressed

Configurable False

Platforms Supported on all platforms

group-name-alias *string*

Description	The alias name associated with this next-hop-group.
Context	network-instance name *string* route-table next-hop-group index *number* group-name-alias *string*
Tree	group-name-alias
Configurable	False
Platforms	Supported on all platforms

next-hop id *number*

Description	List of primary next-hops associated with the NHG
Context	network-instance name *string* route-table next-hop-group index *number* next-hop id *number*
Tree	next-hop
Configurable	False
Platforms	Supported on all platforms

id *number*

Description	A unique identifier of a next-hop member (system allocated).
Context	network-instance name *string* route-table next-hop-group index *number* next-hop id *number*
Range	0 to 1023
Configurable	False
Platforms	Supported on all platforms

next-hop *reference*

Description	Enter the next-hop context
Context	network-instance name *string* route-table next-hop-group index *number* next-hop id *number* next-hop *reference*
Tree	next-hop
Reference	network-instance name *string* route-table next-hop index *number*
Configurable	False
Platforms	Supported on all platforms

resolved *keyword*

Description Set to true when the next-hop was resolved. This reads not-applicable for resolve=false next-hops.

Context network-instance name *string* route-table next-hop-group index *number* next-hop id *number* resolved *keyword*

Tree resolved

Options

- true
- false
- not-applicable

Configurable False

Platforms Supported on all platforms

weight *number*

Description The configured/programmed weight assigned to the next-hop within the group

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.

Context network-instance name *string* route-table next-hop-group index *number* next-hop id *number* weight *number*

Tree weight

Configurable False

Platforms Supported on all platforms

programmed-index *number*

Description The index assigned to the next-hop-group by the gRIBI client

Context network-instance name *string* route-table next-hop-group index *number* programmed-index *number*

Tree programmed-index

Configurable False

Platforms Supported on all platforms

router-id *string*

Description	A identifier for the local network instance - typically used within associated routing protocols or signalling routing information in another network instance
Context	network-instance name *string* router-id *string*
Tree	router-id
Configurable	True
Platforms	Supported on all platforms

segment-routing

Description	Container with segment routing configuration options
Context	network-instance name *string* segment-routing
Tree	segment-routing
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mpls

Description	Adding this container activates datapath support for SR-MPLS
Context	network-instance name *string* segment-routing mpls
Tree	mpls
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

global-block

Description	Container with SRGB configuration that is applicable to all IGP protocol instances
Context	network-instance name *string* segment-routing mpls global-block
Tree	global-block
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-range *reference*

Description	Reference to a static label range

Context	network-instance name *string* segment-routing mpls global-block label-range *reference*
Tree	label-range
Reference	system mpls label-ranges static name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-range-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* segment-routing mpls global-block label-range-status *keyword*
Tree	label-range-status
Options	• available • unavailable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

local-prefix-sid prefix-sid-index *number*

Description	List of configured protocol-independent prefix SIDs associated with the network-instance
Context	network-instance name *string* segment-routing mpls local-prefix-sid prefix-sid-index *number*
Tree	local-prefix-sid
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	4

prefix-sid-index *number*

Description	An index to enumerate the different prefix sids
Context	network-instance name *string* segment-routing mpls local-prefix-sid prefix-sid-index *number*
Range	1 to 4

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *string*

Description	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.
Context	network-instance name *string* segment-routing mpls local-prefix-sid prefix-sid-index *number* interface *string*
Tree	interface
String Length	5 to 25
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-label-index *number*

Description	Label index to add to SRGB base.
Context	network-instance name *string* segment-routing mpls local-prefix-sid prefix-sid-index *number* ipv4-label-index *number*
Tree	ipv4-label-index
Range	0 to 1048575
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-label-index *number*

Description	Label index to add to SRGB base.
Context	network-instance name *string* segment-routing mpls local-prefix-sid prefix-sid-index *number* ipv6-label-index *number*
Tree	ipv6-label-index

Range	0 to 1048575
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

node-sid *boolean*

Description	If set, the prefix SID(s) identity the router as a whole.
Context	network-instance name *string* segment-routing mpls local-prefix-sid prefix-sid-index *number* node-sid *boolean*
Tree	node-sid
Default	true
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sid-database

Description	Database of all known prefix SIDs, local and remote.
Context	network-instance name *string* segment-routing mpls sid-database
Tree	sid-database
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-sid prefix *(ipv4-prefix | ipv6-prefix)* sid-label-value *number* protocol *keyword* protocol-instance *number* protocol-multi-topology *number* algorithm *number*

Description	List of prefix SIDs
Context	network-instance name *string* 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*
Tree	prefix-sid
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *(ipv4-prefix | ipv6-prefix)*

Description	The IPv4 or IPv6 prefix associated with the SID.
Context	network-instance name *string* 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*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sid-label-value *number*

Description	The MPLS label value associated with the SID.
Context	network-instance name *string* 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*
Range	16 to 1048575
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocol *keyword*

Description	The protocol that provided the prefix SID
Context	network-instance name *string* 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*
Options	• isis • direct
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocol-instance *number*

Description	The instance ID that provided the prefix SID
Context	network-instance name *string* 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*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocol-multi-topology *number*

Description	The multi-topology ID that provided the prefix SID
Context	network-instance name *string* 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*
Range	0 to 4095
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

algorithm *number*

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* 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*
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

active *boolean*

Description	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.
Context	network-instance name *string* 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* active *boolean*
Tree	active
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix-conflict *boolean*

Description	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.

Context	network-instance name *string* 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* prefix-conflict *boolean*
Tree	prefix-conflict
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sid-conflict *boolean*

Description	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.
Context	network-instance name *string* 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* sid-conflict *boolean*
Tree	sid-conflict
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

static-routes

Description	Enable the static-routes context
Context	network-instance name *string* static-routes
Tree	static-routes
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enter the admin-state context
Context	network-instance name *string* static-routes admin-state *keyword*
Tree	admin-state

Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

route prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the route list instance
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)*
Tree	route
Configurable	True
Platforms	Supported on all platforms
Max. Elements	16384

prefix *(ipv4-prefix | ipv6-prefix)*

Description	Enter the prefix context
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)*
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Used to disable the static route.
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

installed *boolean*

Description	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
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)* installed *boolean*
Tree	installed
Configurable	False
Platforms	Supported on all platforms

metric *number*

Description	IGP metric of the static route.
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)* metric *number*
Tree	metric
Default	1
Configurable	True
Platforms	Supported on all platforms

next-hop-group *reference*

Description	Enter the next-hop-group context
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)* next-hop-group *reference*
Tree	next-hop-group
Reference	network-instance name *string* next-hop-groups group name *string*
Configurable	True
Platforms	Supported on all platforms

preference *number*

Description	Route preference with lower values indicating a higher degree of preference.
Context	network-instance name *string* static-routes route prefix *(ipv4-prefix | ipv6-prefix)* preference *number*
Tree	preference

Range	0 to 255
Default	5
Configurable	True
Platforms	Supported on all platforms

system-ipv4-address

Description	Container for displaying information about the system IPv4 address of the default network-instance
Context	network-instance name *string* system-ipv4-address
Tree	system-ipv4-address
Configurable	False
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	The reason why the default network instance does not have a system IPv4 address
Context	network-instance name *string* system-ipv4-address oper-down-reason *keyword*
Tree	oper-down-reason
Options	• system-interface-not-bound • system-interface-has-no-ipv4-address
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	The operational state of the system IPv4 address binding
Context	network-instance name *string* system-ipv4-address 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.

Configurable False

Platforms Supported on all platforms

system-ipv6-address

Description Container for displaying information about the system IPv6 address of the default network-instance

Context network-instance name *string* system-ipv6-address

Tree system-ipv6-address

Configurable False

Platforms Supported on all platforms

oper-down-reason *keyword*

Description The reason why the default network instance does not have a system IPv6 address

Context network-instance name *string* system-ipv6-address oper-down-reason *keyword*

Tree oper-down-reason

Options

- system-interface-not-bound
- system-interface-has-no-ipv6-address

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description The operational state of the system IPv6 address binding

Context network-instance name *string* system-ipv6-address 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.

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

Configurable False

Platforms Supported on all platforms

listening-application local-address *(ipv4-address | ipv6-address)* local-port *number*

Description List of applications that are listening on a particular TCP port bound to the network-instance.

Context	network-instance name *string* tcp listening-application local-address *(ipv4-address | ipv6-address)* local-port *number*
Tree	listening-application
Configurable	False
Platforms	Supported on all platforms

local-address *(ipv4-address | ipv6-address)*

Description	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.
Context	network-instance name *string* tcp listening-application local-address *(ipv4-address | ipv6-address)* local-port *number*
Configurable	False
Platforms	Supported on all platforms

local-port *number*

Description	The local port number accepted by the application.
Context	network-instance name *string* tcp listening-application local-address *(ipv4-address | ipv6-address)* local-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 listening-application local-address *(ipv4-address | ipv6-address)* local-port *number* process-id *number*
Tree	process-id
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	network-instance name *string* tcp statistics

Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-opens *number*

Description	The total number of times that TCP connections have made a direct transition to the SYN-SENT state from the CLOSED state.
Context	network-instance name *string* tcp statistics active-opens *number*
Tree	active-opens
Default	0
Configurable	False
Platforms	Supported on all platforms

attempt-fails *number*

Description	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.
Context	network-instance name *string* tcp statistics attempt-fails *number*
Tree	attempt-fails
Default	0
Configurable	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*
Tree	in-segments
Default	0
Configurable	False
Platforms	Supported on all platforms

out-rst-segments *number*

Description	The total number of TCP segments sent containing the RST flag.
Context	network-instance name *string* tcp statistics out-rst-segments *number*
Tree	out-rst-segments
Default	0
Configurable	False
Platforms	Supported on all platforms

out-segments *number*

Description	The total number of segments sent, including those on current connections but excluding those containing only retransmitted octets.
Context	network-instance name *string* tcp statistics out-segments *number*
Tree	out-segments
Default	0
Configurable	False
Platforms	Supported on all platforms

passive-opens *number*

Description	The total number of times TCP connections have made a direct transition to the SYN-RCVD state from the LISTEN state.
Context	network-instance name *string* tcp statistics passive-opens *number*
Tree	passive-opens
Default	0
Configurable	False
Platforms	Supported on all platforms

retransmitted-segments *number*

Description	The total number of segments retransmitted; that is, the number of TCP segments transmitted containing one or more previously transmitted octets.
Context	network-instance name *string* tcp statistics retransmitted-segments *number*
Tree	retransmitted-segments
Default	0
Configurable	False
Platforms	Supported on all platforms

tunnel-table

Description	Enter the tunnel-table context
Context	network-instance name *string* tunnel-table
Tree	tunnel-table
Configurable	False

Platforms	Supported on all platforms

ipv4

Description	The container for the IPv4 tunnels associated with the network instance.
Context	network-instance name *string* tunnel-table ipv4
Tree	ipv4
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	network-instance name *string* tunnel-table ipv4 statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-tunnels *number*

Description	The total number of tunnels, belonging to this address family, that are active.
Context	network-instance name *string* tunnel-table ipv4 statistics active-tunnels *number*
Tree	active-tunnels
Configurable	False
Platforms	Supported on all platforms

inactive-tunnels *number*

Description	The total number of tunnels, belonging to this address family, that are inactive (not programmed).
Context	network-instance name *string* tunnel-table ipv4 statistics inactive-tunnels *number*
Tree	inactive-tunnels
Configurable	False
Platforms	Supported on all platforms

total-tunnels *number*

Description	The total number of tunnels, active and inactive, belonging to this address family
Context	network-instance name *string* tunnel-table ipv4 statistics total-tunnels *number*
Tree	total-tunnels
Default	0
Configurable	False
Platforms	Supported on all platforms

tunnel ipv4-prefix *string* type *identityref* owner *string* id *number*

Description	Enter the tunnel list instance
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number*
Tree	tunnel
Configurable	False
Platforms	Supported on all platforms

ipv4-prefix *string*

Description	The IPv4 prefix associated with the endpoint of the tunnel.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number*
Configurable	False
Platforms	Supported on all platforms

type *identityref*

Description	The tunnel (encapsulation) type
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number*
Options	• ip-in-ip Tunnels with IP-in-IP encapsulation • sr-isis Segment routing using MPLS dataplane, programmed by IS-IS

- sr-ospfv2

  Segment routing using MPLS dataplane, programmed by OSPFv2
- sr-ospfv3

  Segment routing using MPLS dataplane, programmed by OSPFv3
- sr-policy-mpls-colored

  Tunnel setup using TE-POLICY.
- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.
- vxlan

  Tunnels based on VXLAN encapsulation

Configurable False

Platforms Supported on all platforms

owner *string*

Description The name of the application that submitted the tunnel to TTM

Context network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number*

Configurable 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 ipv4 tunnel ipv4-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 ipv4 tunnel ipv4-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 ipv4 tunnel ipv4-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 ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* fib-programming not-programmed-reason *keyword*

Tree not-programmed-reason

Options

- out-of-tunnel-resources

Configurable False

Platforms Supported on all platforms

status *keyword*

Description The status of the tunnel programming

Context network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* fib-programming status *keyword*

Tree status

Options

- active

  The tunnel is active and programmed into the datapath.

- inactive

  The tunnel is inactive and not programmed into the datapath.

Configurable False

Platforms Supported on all platforms

ip-in-ip

Description	Enter the ip-in-ip context
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* ip-in-ip
Tree	ip-in-ip
Configurable	False
Platforms	Supported on all platforms

destination-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the destination of the tunnel.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* ip-in-ip destination-address *(ipv4-address | ipv6-address)*
Tree	destination-address
Configurable	False
Platforms	Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the source of the tunnel.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* ip-in-ip source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	False
Platforms	Supported on all platforms

last-app-update *string*

Description	The date and time of the last update of this tunnel by the owning application or protocol.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* last-app-update *string*
Tree	last-app-update
String Length	20 to 32
Configurable	False

Platforms	Supported on all platforms

metric *number*

Description	The metric of the tunnel.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* metric *number*
Tree	metric
Configurable	False
Platforms	Supported on all platforms

next-hop-group *reference*

Description	Leaf reference to a next-hop-group that has the direct next-hops towards the tunnel far-end
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *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

preference *number*

Description	The tunnel table preference.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* preference *number*
Tree	preference
Configurable	False
Platforms	Supported on all platforms

vxlan

Description	Enter the vxlan context
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* vxlan
Tree	vxlan

Configurable	False
Platforms	Supported on all platforms

destination-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* vxlan destination-address *(ipv4-address | ipv6-address)*
Tree	destination-address
Configurable	False
Platforms	Supported on all platforms

destination-udp-port *number*

Description	The destination UDP port number written into the outer IP/UDP header of VXLAN packets associated with this tunnel and originated by this router.
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* vxlan destination-udp-port *number*
Tree	destination-udp-port
Configurable	False
Platforms	Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the local VXLAN Termination Endpoint (VTEP).
Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* vxlan source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	False
Platforms	Supported on all platforms

time-to-live *number*

Description	The Time To Live (TTL) value written into the outer IP header of VXLAN packets associated with this tunnel and originated by this router.

Context	network-instance name *string* tunnel-table ipv4 tunnel ipv4-prefix *string* type *identityref* owner *string* id *number* vxlan time-to-live *number*
Tree	time-to-live
Configurable	False
Platforms	Supported on all platforms

tunnel-summary

Description	Tunnel summary information
Context	network-instance name *string* tunnel-table ipv4 tunnel-summary
Tree	tunnel-summary
Configurable	False
Platforms	Supported on all platforms

tunnel-type type *identityref*

Description	Enter the tunnel-type list instance
Context	network-instance name *string* tunnel-table ipv4 tunnel-summary tunnel-type type *identityref*
Tree	tunnel-type
Configurable	False
Platforms	Supported on all platforms

type *identityref*

Description	Tunneling encapsulation format
Context	network-instance name *string* tunnel-table ipv4 tunnel-summary tunnel-type type *identityref*
Options	• ip-in-ip Tunnels with IP-in-IP encapsulation • sr-isis Segment routing using MPLS dataplane, programmed by IS-IS • sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2 • sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3 • sr-policy-mpls-colored

Tunnel setup using TE-POLICY.

- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.

- vxlan

  Tunnels based on VXLAN encapsulation

Configurable False

Platforms Supported on all platforms

active-tunnels *number*

Description The total number of tunnels, using this encapsulation type, that are active.

Context network-instance name *string* tunnel-table ipv4 tunnel-summary tunnel-type type *identityref* active-tunnels *number*

Tree active-tunnels

Configurable False

Platforms Supported on all platforms

inactive-tunnels *number*

Description The total number of tunnels, using this encapsulation type, that are inactive (not programmed).

Context network-instance name *string* tunnel-table ipv4 tunnel-summary tunnel-type type *identityref* inactive-tunnels *number*

Tree inactive-tunnels

Configurable False

Platforms Supported on all platforms

total-tunnels *number*

Description The total number of tunnels, active and inactive, using this encapsulation type.

Context network-instance name *string* tunnel-table ipv4 tunnel-summary tunnel-type type *identityref* total-tunnels *number*

Tree total-tunnels

Default 0

Configurable False

Platforms Supported on all platforms

ipv6

Description	The container for the IPv6 tunnels associated with the network instance.
Context	network-instance name *string* tunnel-table ipv6
Tree	ipv6
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	network-instance name *string* tunnel-table ipv6 statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-tunnels *number*

Description	The total number of tunnels, belonging to this address family, that are active.
Context	network-instance name *string* tunnel-table ipv6 statistics active-tunnels *number*
Tree	active-tunnels
Configurable	False
Platforms	Supported on all platforms

inactive-tunnels *number*

Description	The total number of tunnels, belonging to this address family, that are inactive (not programmed).
Context	network-instance name *string* tunnel-table ipv6 statistics inactive-tunnels *number*
Tree	inactive-tunnels
Configurable	False
Platforms	Supported on all platforms

total-tunnels *number*

Description	The total number of tunnels, active and inactive, belonging to this address family
Context	network-instance name *string* tunnel-table ipv6 statistics total-tunnels *number*
Tree	total-tunnels
Default	0
Configurable	False
Platforms	Supported on all platforms

tunnel ipv6-prefix *string* type *identityref* owner *string* id *number*

Description	Enter the tunnel list instance
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number*
Tree	tunnel
Configurable	False
Platforms	Supported on all platforms

ipv6-prefix *string*

Description	The IPv6 prefix associated with the endpoint of the tunnel.
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

type *identityref*

Description	The tunnel (encapsulation) type
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number*
Options	• ip-in-ip Tunnels with IP-in-IP encapsulation • sr-isis Segment routing using MPLS dataplane, programmed by IS-IS • sr-ospfv2

Segment routing using MPLS dataplane, programmed by OSPFv2

- sr-ospfv3

  Segment routing using MPLS dataplane, programmed by OSPFv3

- sr-policy-mpls-colored

  Tunnel setup using TE-POLICY.

- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.

- vxlan

  Tunnels based on VXLAN encapsulation

Configurable False

Platforms Supported on all platforms

owner *string*

Description The name of the application that submitted the tunnel to TTM

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

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*
Tree	not-programmed-reason
Options	• out-of-tunnel-resources
Configurable	False
Platforms	Supported on all platforms

status *keyword*

Description	The status of the tunnel programming
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* fib-programming status *keyword*
Tree	status
Options	• active The tunnel is active and programmed into the datapath. • inactive The tunnel is inactive and not programmed into the datapath.
Configurable	False
Platforms	Supported on all platforms

ip-in-ip

Description	Enter the ip-in-ip context
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* ip-in-ip
Tree	ip-in-ip
Configurable	False
Platforms	Supported on all platforms

destination-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the destination of the tunnel.
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* ip-in-ip destination-address *(ipv4-address | ipv6-address)*
Tree	destination-address
Configurable	False
Platforms	Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the source of the tunnel.
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* ip-in-ip source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	False
Platforms	Supported on all platforms

last-app-update *string*

Description	The date and time of the last update of this tunnel by the owning application or protocol.
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* last-app-update *string*
Tree	last-app-update
String Length	20 to 32
Configurable	False

Platforms	Supported on all platforms

metric *number*

Description	The metric of the tunnel.
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* metric *number*
Tree	metric
Configurable	False
Platforms	Supported on all platforms

next-hop-group *reference*

Description	Leaf reference to a next-hop-group that has the direct next-hops towards the tunnel far-end
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *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

preference *number*

Description	The tunnel table preference.
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* preference *number*
Tree	preference
Configurable	False
Platforms	Supported on all platforms

vxlan

Description	Enter the vxlan context
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* vxlan
Tree	vxlan

Configurable	False
Platforms	Supported on all platforms

destination-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* vxlan destination-address *(ipv4-address | ipv6-address)*
Tree	destination-address
Configurable	False
Platforms	Supported on all platforms

destination-udp-port *number*

Description	The destination UDP port number written into the outer IP/UDP header of VXLAN packets associated with this tunnel and originated by this router.
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* vxlan destination-udp-port *number*
Tree	destination-udp-port
Configurable	False
Platforms	Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the local VXLAN Termination Endpoint (VTEP).
Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* vxlan source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	False
Platforms	Supported on all platforms

time-to-live *number*

Description	The Time To Live (TTL) value written into the outer IP header of VXLAN packets associated with this tunnel and originated by this router.

Context	network-instance name *string* tunnel-table ipv6 tunnel ipv6-prefix *string* type *identityref* owner *string* id *number* vxlan time-to-live *number*
Tree	time-to-live
Configurable	False
Platforms	Supported on all platforms

tunnel-summary

Description	Tunnel summary information
Context	network-instance name *string* tunnel-table ipv6 tunnel-summary
Tree	tunnel-summary
Configurable	False
Platforms	Supported on all platforms

tunnel-type type *identityref*

Description	Enter the tunnel-type list instance
Context	network-instance name *string* tunnel-table ipv6 tunnel-summary tunnel-type type *identityref*
Tree	tunnel-type
Configurable	False
Platforms	Supported on all platforms

type *identityref*

Description	Tunneling encapsulation format
Context	network-instance name *string* tunnel-table ipv6 tunnel-summary tunnel-type type *identityref*
Options	• ip-in-ip Tunnels with IP-in-IP encapsulation • sr-isis Segment routing using MPLS dataplane, programmed by IS-IS • sr-ospfv2 Segment routing using MPLS dataplane, programmed by OSPFv2 • sr-ospfv3 Segment routing using MPLS dataplane, programmed by OSPFv3 • sr-policy-mpls-colored

Tunnel setup using TE-POLICY.

- sr-policy-mpls-uncolored

  Tunnel setup using TE-POLICY.

- vxlan

  Tunnels based on VXLAN encapsulation

Configurable False

Platforms Supported on all platforms

active-tunnels *number*

Description The total number of tunnels, using this encapsulation type, that are active.

Context network-instance name *string* tunnel-table ipv6 tunnel-summary tunnel-type type *identityref* active-tunnels *number*

Tree active-tunnels

Configurable False

Platforms Supported on all platforms

inactive-tunnels *number*

Description The total number of tunnels, using this encapsulation type, that are inactive (not programmed).

Context network-instance name *string* tunnel-table ipv6 tunnel-summary tunnel-type type *identityref* inactive-tunnels *number*

Tree inactive-tunnels

Configurable False

Platforms Supported on all platforms

total-tunnels *number*

Description The total number of tunnels, active and inactive, using this encapsulation type.

Context network-instance name *string* tunnel-table ipv6 tunnel-summary tunnel-type type *identityref* total-tunnels *number*

Tree total-tunnels

Default 0

Configurable False

Platforms Supported on all platforms

type *identityref*

Description The type of network instance. The value of this leaf indicates the type of forwarding entries that should be supported by this network instance

Context network-instance name *string* type *identityref*

Tree type

Default default

Options

- host

  A special routing instances that refers to the hosts network instance (i.e. the network namespace of PID 1)

- default

  A special routing instance which acts as the 'default' routing instance for a network device.

- ip-vrf

  A private Layer 3 only routing instance.

- mac-vrf

  A private Layer 2 only switching instance.

- vpws

  A private Layer 2 point-to-point instance.

Configurable True

Platforms Supported on all platforms

udp

Description State for UDP datagrams routed using the route tables of this network instance.

Context network-instance name *string* udp

Tree udp

Configurable False

Platforms Supported on all platforms

listening-application local-address *(ipv4-address | ipv6-address)* local-port *number*

Description List of applications that are listening on a particular UDP port bound to the network-instance.

Context network-instance name *string* udp listening-application local-address *(ipv4-address | ipv6-address)* local-port *number*

Tree	listening-application
Configurable	False
Platforms	Supported on all platforms

local-address *(ipv4-address | ipv6-address)*

Description	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.
Context	network-instance name *string* udp listening-application local-address *(ipv4-address | ipv6-address)* local-port *number*
Configurable	False
Platforms	Supported on all platforms

local-port *number*

Description	The local port number accepted by the application.
Context	network-instance name *string* udp listening-application local-address *(ipv4-address | ipv6-address)* local-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* udp listening-application local-address *(ipv4-address | ipv6-address)* local-port *number* process-id *number*
Tree	process-id
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	network-instance name *string* udp statistics
Tree	statistics

Configurable	False
Platforms	Supported on all platforms

ignored-multicast-packets *number*

Description	The total number of ignored multicast UDP datagrams.
Context	network-instance name *string* udp statistics ignored-multicast-packets *number*
Tree	ignored-multicast-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-checksum-errors *number*

Description	Increased when a received UDP packet has an invalid checksum.
Context	network-instance name *string* udp statistics in-checksum-errors *number*
Tree	in-checksum-errors
Default	0
Configurable	False
Platforms	Supported on all platforms

in-error-packets *number*

Description	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.
Context	network-instance name *string* udp statistics in-error-packets *number*
Tree	in-error-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-no-open-ports-packets *number*

Description	The total number of received UDP datagrams for whichthere was no application at the destination port.

Context	network-instance name *string* udp statistics in-no-open-ports-packets *number*
Tree	in-no-open-ports-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

in-packets *number*

Description	The total number of UDP datagrams delivered to UDP users.
Context	network-instance name *string* udp statistics in-packets *number*
Tree	in-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

out-packets *number*

Description	The total number of UDP datagrams sent from this network instance.
Context	network-instance name *string* udp statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

receive-buffer-errors *number*

Description	Increased when memory cannot be allocated to process an incoming UDP packet.
Context	network-instance name *string* udp statistics receive-buffer-errors *number*
Tree	receive-buffer-errors
Default	0
Configurable	False
Platforms	Supported on all platforms

send-buffer-errors *number*

Description	Increased when memory cannot be allocated to send a UDP packet.
Context	network-instance name *string* udp statistics send-buffer-errors *number*
Tree	send-buffer-errors
Default	0
Configurable	False
Platforms	Supported on all platforms

vxlan-interface name *string*

Description	List of vxlan-interfaces used by this network-instance
Context	network-instance name *string* vxlan-interface name *string*
Tree	vxlan-interface
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1

name *string*

Description	Identifier of vxlan-interface used in this network-instance
Context	network-instance name *string* vxlan-interface name *string*
String Length	8 to 17
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-down-reason *keyword*

Description	The reason for the vxlan-interface being down in the network-instance
Context	network-instance name *string* vxlan-interface name *string* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• vxlan-tunnel-down • net-inst-down • vxlan-if-default-net-inst-source-address-missing

- vxlan-if-default-net-inst-source-if-down
- vrf-type-mismatch
- no-mcid

Configurable False

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

oper-state *keyword*

Description The operational state of this vxlan-interface.

Context network-instance name *string* vxlan-interface name *string* 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.

Configurable False

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

7 platform

```
platform
+  chassis
   -  clei-code string
   -  failure-reason string
   -  healthz
      -  last-unhealthy string
      -  status keyword
      -  unhealthy-count number
   -  hw-mac-address string
   -  last-boot-type string
   -  last-booted string
   -  last-booted-reason identityref
   -  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
         -  io-errors number
         -  max-erase-count number
         -  read-per-second decimal-number
         -  transfers-per-second decimal-number
         -  utilization number
         -  written-per-second decimal-number
      -  type keyword
   -  failure-reason string
   -  healthz
      -  last-unhealthy string
      -  status keyword
      -  unhealthy-count number
   -  last-booted string
   -  last-booted-reason identityref
   -  last-change string
   -  last-switchover-reason
      -  details string
      -  trigger identityref
   -  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
      -  maximum number
      -  maximum-time string
   -  type string
+  fabric slot number
   +  admin-state keyword
   -  clei-code string
   -  failure-reason string
   -  healthz
      -  last-unhealthy string
      -  status keyword
      -  unhealthy-count number
   -  last-booted string
   -  last-booted-reason identityref
   -  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
      -  maximum number
      -  maximum-time string
   -  type string
-  fan-tray id number
   -  clei-code string
   -  failure-reason string
   -  healthz
      -  last-unhealthy string
      -  status keyword
      -  unhealthy-count number
   -  last-booted string
   -  last-booted-reason identityref
   -  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
   -  speed-rpm 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
     -  last-booted string
     -  last-booted-reason identityref
     -  last-change string
     -  mtu
        -  resource name identityref
           -  free number
           -  used number
     -  oper-state keyword
     +  p4rt
        +  id number
     -  part-number string
     +  pipeline index (number | keyword)
        -  datapath
           -  xdp
              -  resource name identityref
                 -  free-entries number
                 -  used-entries number
                 -  used-percent number
        -  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
     -  removable boolean
     -  tcam
        -  resource name identityref
           -  free-dynamic number
           -  free-static number
           -  programmed number
           -  reserved number
  -  healthz
     -  last-unhealthy string
     -  status keyword
     -  unhealthy-count number
  -  last-booted string
  -  last-booted-reason identityref
  -  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
      -  maximum number
      -  maximum-time string
   -  type string
-  power-supply id number
   -  capacity number
   -  clei-code string
   -  failure-reason string
   -  fan
      -  speed number
      -  speed-rpm number
   -  feed id number
      -  current decimal-number
      -  voltage decimal-number
   -  healthz
      -  last-unhealthy string
      -  status keyword
      -  unhealthy-count number
   -  input
      -  current decimal-number
      -  power decimal-number
      -  voltage decimal-number
   -  last-booted string
   -  last-booted-reason identityref
   -  last-change string
   -  manufactured-date string
   -  oper-reason keyword
   -  oper-state keyword
   -  output
      -  current decimal-number
      -  power decimal-number
      -  voltage decimal-number
   -  part-number string
   -  removable boolean
   -  serial-number string
   -  temperature
      -  alarm-status boolean
      -  instant number
      -  maximum number
      -  maximum-time string
   -  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
-  trust
   -  secure-boot
      -  control slot string
         -  oper-state keyword
         -  uefi-variables variable string
            -  contents
               -  certificate index number
                  -  data binary
               -  sha1-hash index number
                  -  digest-value binary
               -  sha256-hash index number
                  -  digest-value binary
               -  sha256-hash-cert index number
                  -  digest-value binary
                  -  revocation-time string
         -  uefi-variables-update
            -  db-update-required boolean
            -  dbx-update-required boolean
            -  kek-update-required boolean
            -  modification-dataset-db-conflict boolean
            -  modification-dataset-dbx-conflict boolean
            -  modification-dataset-digest binary
            -  modification-dataset-present boolean
            -  modification-dataset-valid boolean
            -  pk-update-required boolean
            -  up-to-date boolean
   -  tpm
      -  control slot string
         -  certificates name string
            -  data binary
            -  nv-index number
```

```
        - status keyword
        - tpm20-pcr-bank tpm20-hash-algo string
          - pcr-index number
```

7.1 platform Descriptions

platform

Description	Enclosing container for platform components
Context	platform
Tree	platform
Configurable	True
Platforms	Supported on all platforms

chassis

Description	Top-level container for chassis configuration and state
Context	platform chassis
Tree	chassis
Configurable	True
Platforms	Supported on all platforms

clei-code *string*

Description	The Common Language Identification Code for this component
Context	platform chassis clei-code *string*
Tree	clei-code
Configurable	False
Platforms	Supported on all platforms

failure-reason *string*

Description	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
Context	platform chassis failure-reason *string*
Tree	failure-reason
Configurable	False
Platforms	Supported on all platforms

healthz

Description The health of the component

The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.

Context platform chassis healthz

Tree healthz

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description Last unhealthy time

The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.

Context platform chassis healthz last-unhealthy *string*

Tree last-unhealthy

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description Health status

The status of the component, indicating its current health.

Context platform chassis healthz status *keyword*

Tree status

Options

- unspecified

  Unspecified status

  The component's health status has not yet been checked by the system.

- healthy

  Healthy status

  The component is in a healthy state, and is operating within the expected parameters.

- unhealthy

  Unhealthy status

  The component is in a unhealthy state, it is not performing the function expected of it.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description Unhealthy count

The number of times the component has transitioned from the healthy state to any other state.

Context platform chassis healthz unhealthy-count *number*

Tree unhealthy-count

Default 0

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

hw-mac-address *string*

Description The chassis MAC address

Read from hardware, or derived from the systems UUID

Context platform chassis hw-mac-address *string*

Tree hw-mac-address

Configurable False

Platforms Supported on all platforms

last-boot-type *string*

Description The type of boot the chassis initialized from

This field indicates what type of reboot occurred, whether it be warm, normal, or otherwise.

Context platform chassis last-boot-type *string*

Tree last-boot-type

Configurable False

Platforms Supported on all platforms

last-booted *string*

Description 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

Context platform chassis last-booted *string*

Tree last-booted

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

last-booted-reason *identityref*

Description The reason this component last booted or rebooted

For components without the ability to 'boot' this field is never populated

Context platform chassis last-booted-reason *identityref*

Tree last-booted-reason

Options

- user-initiated-reboot

  A user initiated the reboot directly via a management interface
- power-failure

  The system rebooted the component due to insufficient power
- critical-error

  The system rebooted the component due to an internal critical error

Configurable False

Platforms Supported on all platforms

last-change *string*

Description The date and time this component last changed state

Context	platform chassis last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

manufactured-date *string*

Description	The date this component was manufactured
Context	platform chassis manufactured-date *string*
Tree	manufactured-date
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	The operational state of this component
Context	platform chassis 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.

Configurable False

Platforms Supported on all platforms

part-number *string*

Description Part number for this component

Context platform chassis part-number *string*

Tree part-number

Configurable False

Platforms Supported on all platforms

power

Description Top-level container for chassis-wide power state

Context platform chassis power

Tree power

Configurable True

Platforms Supported on all platforms

control

Description	Top-level container for power usage of control modules
Context	platform chassis power control
Tree	control
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peak *number*

Description	Peak power used
Context	platform chassis power control peak *number*
Tree	peak
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used power
Context	platform chassis power control used *number*
Tree	used
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fabric

Description	Top-level container for power usage of fabric modules
Context	platform chassis power fabric

Tree	fabric
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peak *number*

Description	Peak power used
Context	platform chassis power fabric peak *number*
Tree	peak
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

required *number*

Description	Power required to power on all present admin enabled components as part of power management
Context	platform chassis power fabric required *number*
Tree	required
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used power
Context	platform chassis power fabric used *number*
Tree	used
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fan-tray

Description	Top-level container for power usage of fan-trays
Context	platform chassis power fan-tray
Tree	fan-tray
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peak *number*

Description	Peak power used
Context	platform chassis power fan-tray peak *number*
Tree	peak
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

required *number*

Description	Power required to power on all present admin enabled components as part of power management
Context	platform chassis power fan-tray required *number*
Tree	required
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used power
Context	platform chassis power fan-tray used *number*
Tree	used
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

linecard

Description	Top-level container for power usage of linecard modules
Context	platform chassis power linecard
Tree	linecard
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peak *number*

Description	Peak power used

Context	platform chassis power linecard peak *number*
Tree	peak
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

required *number*

Description	Power required to power on all present admin enabled components as part of power management
Context	platform chassis power linecard required *number*
Tree	required
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used power
Context	platform chassis power linecard used *number*
Tree	used
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

total

Description	Top-level container for total power usage and capacity
Context	platform chassis power total
Tree	total
Configurable	False
Platforms	Supported on all platforms

capacity *number*

Description	Total power capacity provided by all power supplies
Context	platform chassis power total capacity *number*
Tree	capacity
Configurable	False

Platforms	Supported on all platforms

peak *number*

Description	Peak power used
Context	platform chassis power total peak *number*
Tree	peak
Configurable	False
Platforms	Supported on all platforms

required *number*

Description	Power required to power on all present admin enabled components as part of power management
Context	platform chassis power total required *number*
Tree	required
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used power
Context	platform chassis power total used *number*
Tree	used
Configurable	False
Platforms	Supported on all platforms

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 chassis rebooting-at *string*
Tree	rebooting-at
String Length	20 to 32

Configurable	False
Platforms	Supported on all platforms

removable *boolean*

Description	Details if this component can be removed from the system
Context	platform chassis removable *boolean*
Tree	removable
Configurable	False
Platforms	Supported on all platforms

secondary-mac-address *string*

Description	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.
Context	platform chassis secondary-mac-address *string*
Tree	secondary-mac-address
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

serial-number *string*

Description	The serial number for this component
Context	platform chassis serial-number *string*
Tree	serial-number
Configurable	False
Platforms	Supported on all platforms

slots *number*

Description	The number of line card slots supported by the chassis
Context	platform chassis slots *number*
Tree	slots

Configurable	False
Platforms	Supported on all platforms

type *string*

Description	The chassis type
Context	platform chassis type *string*
Tree	type
Configurable	False
Platforms	Supported on all platforms

control slot *string*

Description	Top-level container for control module configuration and state
Context	platform control slot *string*
Tree	control
Configurable	True
Platforms	Supported on all platforms

slot *string*

Description	Slot identifier for the control module This is set to 'A' for systems without removable control modules.
Context	platform control slot *string*
Configurable	True
Platforms	Supported on all platforms

cgroup name *string*

Description	List of cgroups present in the system
Context	platform control slot *string* cgroup name *string*
Tree	cgroup
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	Name of the cgroup, as defined by its directory location in the filesystem
Context	platform control slot *string* cgroup name *string*
Configurable	False
Platforms	Supported on all platforms

cpuacct-statistics

Description	Top-level container for cgroup cpuacct statistics
Context	platform control slot *string* cgroup name *string* cpuacct-statistics
Tree	cpuacct-statistics
Configurable	False
Platforms	Supported on all platforms

system *number*

Description	CPU usage user system
Context	platform control slot *string* cgroup name *string* cpuacct-statistics system *number*
Tree	system
Units	useconds
Configurable	False
Platforms	Supported on all platforms

user *number*

Description	CPU usage user mode
Context	platform control slot *string* cgroup name *string* cpuacct-statistics user *number*
Tree	user
Units	useconds
Configurable	False
Platforms	Supported on all platforms

memory-statistics

Description	Top-level container for cgroup memory statistics

Context	platform control slot *string* cgroup name *string* memory-statistics
Tree	memory-statistics
Configurable	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*

Description	The total amount of swap currently being used by the cgroup and its descendants. Read from memory.swap.current
Context	platform control slot *string* cgroup name *string* memory-statistics current-swap *number*
Tree	current-swap
Units	bytes
Configurable	False
Platforms	Supported on all platforms

file *number*

Description	Amount of memory used to cache filesystem data, including tmpfs and shared memory
Context	platform control slot *string* cgroup name *string* memory-statistics file *number*
Tree	file
Units	bytes
Configurable	False
Platforms	Supported on all platforms

file-dirty *number*

Description	Amount of cached filesystem data that was modified but not yet written back to disk
Context	platform control slot *string* cgroup name *string* memory-statistics file-dirty *number*
Tree	file-dirty
Units	bytes
Configurable	False
Platforms	Supported on all platforms

file-writeback *number*

Description	Amount of cached filesystem data that was modified and is currently being written back to disk
Context	platform control slot *string* cgroup name *string* memory-statistics file-writeback *number*

Tree	file-writeback
Units	bytes
Configurable	False
Platforms	Supported on all platforms

kernel-stack *number*

Description	Amount of memory allocated to kernel stacks
Context	platform control slot *string* cgroup name *string* memory-statistics kernel-stack *number*
Tree	kernel-stack
Units	bytes
Configurable	False
Platforms	Supported on all platforms

memory-events

Description	Top-level container for cgroup memory events
Context	platform control slot *string* cgroup name *string* memory-statistics memory-events
Tree	memory-events
Configurable	False
Platforms	Supported on all platforms

high *number*

Description	The number of times processes of the cgroup are throttled and routed to perform direct memory reclaim because the high memory boundary was exceeded.
Context	platform control slot *string* cgroup name *string* memory-statistics memory-events high *number*
Tree	high
Configurable	False
Platforms	Supported on all platforms

low *number*

Description	The number of times the cgroup is reclaimed due to high memory pressure even though its usage is under the low boundary.
Context	platform control slot *string* cgroup name *string* memory-statistics memory-events low *number*
Tree	low
Configurable	False
Platforms	Supported on all platforms

max *number*

Description	The number of times the cgroup’s memory usage was about to go over the max boundary
Context	platform control slot *string* cgroup name *string* memory-statistics memory-events max *number*
Tree	max
Configurable	False
Platforms	Supported on all platforms

oom *number*

Description	The number of time the cgroup’s memory usage had reached the limit and allocation was about to fail
Context	platform control slot *string* cgroup name *string* memory-statistics memory-events oom *number*
Tree	oom
Configurable	False
Platforms	Supported on all platforms

oom-kill *number*

Description	The number of processes belonging to this cgroup killed by any kind of out-of-memory killer
Context	platform control slot *string* cgroup name *string* memory-statistics memory-events oom-kill *number*
Tree	oom-kill
Configurable	False
Platforms	Supported on all platforms

slab *number*

Description	Amount of memory used for storing in-kernel data structures
Context	platform control slot *string* cgroup name *string* memory-statistics slab *number*
Tree	slab
Units	bytes
Configurable	False
Platforms	Supported on all platforms

sock *number*

Description	Amount of memory used in network transmission buffers
Context	platform control slot *string* cgroup name *string* memory-statistics sock *number*
Tree	sock
Units	bytes
Configurable	False
Platforms	Supported on all platforms

clei-code *string*

Description	The Common Language Identification Code for this component
Context	platform control slot *string* clei-code *string*
Tree	clei-code
Configurable	False
Platforms	Supported on all platforms

cpu index *(keyword | number)*

Description	List of all CPUs in the system
Context	platform control slot *string* cpu index *(keyword | number)*
Tree	cpu
Configurable	False
Platforms	Supported on all platforms

index *(keyword | number)*

Description 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.

Context platform control slot *string* cpu index *(keyword | number)*

Options

- all

  Index value indicating all CPUs in the system

Configurable False

Platforms Supported on all platforms

architecture *keyword*

Description Architecture supported by the CPU

Context platform control slot *string* cpu index *(keyword | number)* architecture *keyword*

Tree architecture

Options

- x86_64

Configurable False

Platforms Supported on all platforms

hardware-interrupt

Description Time spent servicing hardware interrupts

Context platform control slot *string* cpu index *(keyword | number)* hardware-interrupt

Tree hardware-interrupt

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)* hardware-interrupt 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)* 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

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)* idle 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)* idle 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)* idle 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)* idle instant *number*

Tree	instant
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

iowait

Description	Time spent idle, waiting for an outstanding disk I/O request
Context	platform control slot *string* cpu index *(keyword* | *number)* iowait
Tree	iowait
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)* iowait 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)* iowait 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)* iowait 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)* iowait instant *number*
Tree	instant
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

nice

Description	Time spent running low-priority (niced) user processes
Context	platform control slot *string* cpu index *(keyword | number)* nice
Tree	nice
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)* nice 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)* nice 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)* nice 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)* nice instant *number*
Tree	instant
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

software-interrupt

Description	Time spent servicing software interrupts
Context	platform control slot *string* cpu index *(keyword | number)* software-interrupt
Tree	software-interrupt
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)* software-interrupt 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)* software-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)* software-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)* software-interrupt instant *number*
Tree	instant
Range	0 to 100

Configurable	False
Platforms	Supported on all platforms

speed *decimal-number*

Description	Capable speed of the CPU
Context	platform control slot *string* cpu index *(keyword | number)* speed *decimal-number*
Tree	speed
Units	gigahertz
Configurable	False
Platforms	Supported on all platforms

system

Description	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.
Context	platform control slot *string* cpu index *(keyword | number)* system
Tree	system
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)* system 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)* system 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)* system 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)* system instant *number*
Tree	instant
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

total

Description	Total CPU utilization
Context	platform control slot *string* cpu index *(keyword | number)* total
Tree	total
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)* total 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)* total 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)* total 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)* total instant *number*
Tree	instant
Range	0 to 100
Configurable	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

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)* user 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)* user instant *number*
Tree	instant
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

disk name *string*

Description	List of disks present in the system
Context	platform control slot *string* disk name *string*
Tree	disk
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	Name of the disk, as defined by its physical location in the system
Context	platform control slot *string* disk name *string*
Configurable	False
Platforms	Supported on all platforms

model-number *string*

Description	Model name of the disk
Context	platform control slot *string* disk name *string* model-number *string*
Tree	model-number
Configurable	False
Platforms	Supported on all platforms

partition name *string*

Description	List of partitions available on this disk
Context	platform control slot *string* disk name *string* partition name *string*
Tree	partition
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	Name of the partition
Context	platform control slot *string* disk name *string* partition name *string*
Configurable	False
Platforms	Supported on all platforms

free *number*

Description	Space free on the partition
Context	platform control slot *string* disk name *string* partition name *string* free *number*
Tree	free
Units	bytes
Configurable	False
Platforms	Supported on all platforms

mount-point *string*

Description	Path to where this partition is mounted

Context	platform control slot *string* disk name *string* partition name *string* mount-point *string*
Tree	mount-point
Configurable	False
Platforms	Supported on all platforms

mount-status *keyword*

Description	Current mount status of this partition
Context	platform control slot *string* disk name *string* partition name *string* mount-status *keyword*
Tree	mount-status
Options	• ro Partition is currently mounted read-only • rw Partition is currently mounted read-write
Configurable	False
Platforms	Supported on all platforms

percent-used *number*

Description	Percentage of the partition in use
Context	platform control slot *string* disk name *string* partition name *string* percent-used *number*
Tree	percent-used
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

size *number*

Description	Size of the partition
Context	platform control slot *string* disk name *string* partition name *string* size *number*
Tree	size
Units	bytes
Configurable	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

Description	Top-level container for disk statistics
Context	platform control slot *string* disk name *string* statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

io-errors *number*

Description	Enter the io-errors context
Context	platform control slot *string* disk name *string* statistics io-errors *number*
Tree	io-errors
Configurable	False
Platforms	Supported on all platforms

max-erase-count *number*

Description	Enter the max-erase-count context
Context	platform control slot *string* disk name *string* statistics max-erase-count *number*
Tree	max-erase-count
Configurable	False
Platforms	Supported on all platforms

read-per-second *decimal-number*

Description	Indicates the amount of data read from the device per second
Context	platform control slot *string* disk name *string* statistics read-per-second *decimal-number*
Tree	read-per-second
Units	bytes
Configurable	False
Platforms	Supported on all platforms

transfers-per-second *decimal-number*

Description	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.
Context	platform control slot *string* disk name *string* statistics transfers-per-second *decimal-number*
Tree	transfers-per-second
Configurable	False
Platforms	Supported on all platforms

utilization *number*

Description	The current tps utilization of the disk, expressed as a percentage
Context	platform control slot *string* disk name *string* statistics utilization *number*
Tree	utilization
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

written-per-second *decimal-number*

Description	Indicates the amount of data written to the device per second
Context	platform control slot *string* disk name *string* statistics written-per-second *decimal-number*
Tree	written-per-second
Units	bytes
Configurable	False
Platforms	Supported on all platforms

type *keyword*

Description	Type of disk
Context	platform control slot *string* disk name *string* type *keyword*
Tree	type
Options	• compactflash • ssd

- hdd
- usb

Configurable False

Platforms Supported on all platforms

failure-reason *string*

Description The reason the component transitioned to a failed state

Field is empty if the component is not currently in a failure state

Context platform control slot *string* failure-reason *string*

Tree failure-reason

Configurable False

Platforms Supported on all platforms

healthz

Description The health of the component

The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.

Context platform control slot *string* healthz

Tree healthz

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description Last unhealthy time

The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.

Context platform control slot *string* healthz last-unhealthy *string*

Tree last-unhealthy

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description Health status

The status of the component, indicating its current health.

Context platform control slot *string* healthz status *keyword*

Tree status

Options

- unspecified

  Unspecified status

  The component's health status has not yet been checked by the system.
- healthy

  Healthy status

  The component is in a healthy state, and is operating within the expected parameters.
- unhealthy

  Unhealthy status

  The component is in a unhealthy state, it is not performing the function expected of it.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description Unhealthy count

The number of times the component has transitioned from the healthy state to any other state.

Context platform control slot *string* healthz unhealthy-count *number*

Tree unhealthy-count

Default 0

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-booted *string*

Description	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
Context	platform control slot *string* last-booted *string*
Tree	last-booted
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-booted-reason *identityref*

Description	The reason this component last booted or rebooted For components without the ability to 'boot' this field is never populated
Context	platform control slot *string* last-booted-reason *identityref*
Tree	last-booted-reason
Options	• user-initiated-reboot A user initiated the reboot directly via a management interface • power-failure The system rebooted the component due to insufficient power • critical-error The system rebooted the component due to an internal critical error
Configurable	False
Platforms	Supported on all platforms

last-change *string*

Description	The date and time this component last changed state
Context	platform control slot *string* last-change *string*
Tree	last-change
String Length	20 to 32

Configurable	False
Platforms	Supported on all platforms

last-switchover-reason

Description	State information relating to the last control module switchover
Context	platform control slot *string* last-switchover-reason
Tree	last-switchover-reason
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

details *string*

Description	Any additional details relating to the last switchover This field is not populated if the system has not performed a switchover since initial startup.
Context	platform control slot *string* last-switchover-reason details *string*
Tree	details
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trigger *identityref*

Description	Indicates the trigger of the last switchover This field is not populated if the system has not performed a switchover since initial startup.
Context	platform control slot *string* last-switchover-reason trigger *identityref*
Tree	trigger
Options	• user-initiated A user initiated the switchover directly via the tools schema • control-reboot A user initiated the switchover indirectly via rebooting the active control module • control-failure The system has forced a switchover due to a failure on the active control module • linecard-connectivity

The system has forced a switchover due to a loss of connectivity between the active control module and one or more linecards

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

locator-state *keyword*

Description Details if the locator LED is active on this component

Context platform control slot *string* locator-state *keyword*

Tree locator-state

Default inactive

Options

- active

  Locator LED is currently active
- inactive

  Locator LED is currently inactive

Configurable False

Platforms Supported on all platforms

manufactured-date *string*

Description The date this component was manufactured

Context platform control slot *string* manufactured-date *string*

Tree manufactured-date

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

memory

Description Top-level container for system memory state

Context platform control slot *string* memory

Tree memory

Configurable False

Platforms Supported on all platforms

free *number*

Description	Memory available for system use
Context	platform control slot *string* memory free *number*
Tree	free
Units	bytes
Configurable	False
Platforms	Supported on all platforms

physical *number*

Description	Total physical memory available on this component
Context	platform control slot *string* memory physical *number*
Tree	physical
Units	bytes
Configurable	False
Platforms	Supported on all platforms

reserved *number*

Description	Memory reserved for system use
Context	platform control slot *string* memory reserved *number*
Tree	reserved
Units	bytes
Configurable	False
Platforms	Supported on all platforms

utilization *number*

Description	Total memory utilized
Context	platform control slot *string* memory utilization *number*
Tree	utilization
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description The operational state of this component

Context platform control slot *string* 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.

Configurable False

Platforms	Supported on all platforms

part-number *string*

Description	Part number for this component
Context	platform control slot *string* 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 control slot *string* power
Tree	power
Configurable	False
Platforms	Supported on all platforms

required *number*

Description	The power budget required to enable this component
Context	platform control slot *string* power required *number*
Tree	required
Units	watts
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	The power in use by this component
Context	platform control slot *string* power used *number*
Tree	used
Units	watts
Configurable	False
Platforms	Supported on all platforms

process pid *number*

Description	List of system processes
Context	platform control slot *string* process pid *number*
Tree	process
Configurable	False
Platforms	Supported on all platforms

pid *number*

Description	The process ID
Context	platform control slot *string* process pid *number*
Configurable	False
Platforms	Supported on all platforms

args *string*

Description	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.
Context	platform control slot *string* process pid *number* args *string*
Tree	args
Configurable	False
Platforms	Supported on all platforms

cpu-utilization *number*

Description	The percentage of CPU that is being used by the process
Context	platform control slot *string* process pid *number* cpu-utilization *number*
Tree	cpu-utilization
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

memory-usage *number*

Description	Bytes allocated and in use by the process
Context	platform control slot *string* process pid *number* memory-usage *number*
Tree	memory-usage
Units	bytes
Configurable	False
Platforms	Supported on all platforms

memory-utilization *number*

Description	The percentage of RAM that is being used by the process
Context	platform control slot *string* process pid *number* memory-utilization *number*
Tree	memory-utilization
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	The process name
Context	platform control slot *string* process pid *number* name *string*
Tree	name
Configurable	False
Platforms	Supported on all platforms

start-time *string*

Description	The time at which this process started
Context	platform control slot *string* process pid *number* start-time *string*
Tree	start-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

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 control slot *string* rebooting-at *string*
Tree	rebooting-at
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

removable *boolean*

Description	Details if this component can be removed from the system
Context	platform control slot *string* removable *boolean*
Tree	removable
Configurable	False
Platforms	Supported on all platforms

role *keyword*

Description	Control module role, detailing active or standby state This field is not present on systems without removable control modules.
Context	platform control slot *string* role *keyword*
Tree	role
Options	• active • standby
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

serial-number *string*

Description	The serial number for this component
Context	platform control slot *string* serial-number *string*
Tree	serial-number

Configurable	False
Platforms	Supported on all platforms

software-version *string*

Description	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.
Context	platform control slot *string* software-version *string*
Tree	software-version
Configurable	False
Platforms	Supported on all platforms

temperature

Description	State related to temperature for this component
Context	platform control slot *string* temperature
Tree	temperature
Configurable	False
Platforms	Supported on all platforms

alarm-status *boolean*

Description	Indicates if a temperature sensor of this component is currently in an alarm state An alarm state is triggered if the margin is <=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.
Context	platform control slot *string* temperature alarm-status *boolean*
Tree	alarm-status
Configurable	False
Platforms	Supported on all platforms

instant *number*

Description	Represents the highest current 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.

Context platform control slot *string* temperature instant *number*

Tree instant

Configurable False

Platforms Supported on all platforms

margin *number*

Description 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.

Context platform control slot *string* temperature margin *number*

Tree margin

Configurable False

Platforms Supported on all platforms

maximum *number*

Description Represents the highest temperature any sensor on this component has reached since it booted

Context platform control slot *string* temperature maximum *number*

Tree maximum

Configurable False

Platforms Supported on all platforms

maximum-time *string*

Description Indicates the time this component reached the temperature referenced in the maximum field

Context platform control slot *string* temperature maximum-time *string*

Tree maximum-time

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

type *string*

Description	Control module type, as translated from the components EEPROM
Context	platform control slot *string* type *string*
Tree	type
Configurable	False
Platforms	Supported on all platforms

fabric slot *number*

Description	Top-level container for fabric configuration and state
Context	platform fabric slot *number*
Tree	fabric
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *number*

Description	Numeric identifier for the fabric module
Context	platform fabric slot *number*
Range	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	The administrative state of this component
Context	platform fabric slot *number* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clei-code *string*

Description The Common Language Identification Code for this component

Context platform fabric slot *number* clei-code *string*

Tree clei-code

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

failure-reason *string*

Description The reason the component transitioned to a failed state

Field is empty if the component is not currently in a failure state

Context platform fabric slot *number* failure-reason *string*

Tree failure-reason

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

healthz

Description The health of the component

The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.

Context platform fabric slot *number* healthz

Tree healthz

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description Last unhealthy time

The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.

Context platform fabric slot *number* healthz last-unhealthy *string*

Tree last-unhealthy

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description Health status

The status of the component, indicating its current health.

Context platform fabric slot *number* healthz status *keyword*

Tree status

Options

- unspecified

  Unspecified status

  The component's health status has not yet been checked by the system.
- healthy

  Healthy status

  The component is in a healthy state, and is operating within the expected parameters.
- unhealthy

  Unhealthy status

  The component is in a unhealthy state, it is not performing the function expected of it.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description Unhealthy count

The number of times the component has transitioned from the healthy state to any other state.

Context platform fabric slot *number* healthz unhealthy-count *number*

Tree unhealthy-count

Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-booted *string*

Description	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
Context	platform fabric slot *number* last-booted *string*
Tree	last-booted
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-booted-reason *identityref*

Description	The reason this component last booted or rebooted For components without the ability to 'boot' this field is never populated
Context	platform fabric slot *number* last-booted-reason *identityref*
Tree	last-booted-reason
Options	• user-initiated-reboot A user initiated the reboot directly via a management interface • power-failure The system rebooted the component due to insufficient power • critical-error The system rebooted the component due to an internal critical error
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-change *string*

Description	The date and time this component last changed state
Context	platform fabric slot *number* last-change *string*

Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

locator-state *keyword*

Description	Details if the locator LED is active on this component
Context	platform fabric slot *number* locator-state *keyword*
Tree	locator-state
Default	inactive
Options	• active Locator LED is currently active • inactive Locator LED is currently inactive
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

manufactured-date *string*

Description	The date this component was manufactured
Context	platform fabric slot *number* manufactured-date *string*
Tree	manufactured-date
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description	The operational state of this component
Context	platform fabric slot *number* 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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

required *number*

Description	The power budget required to enable this component
Context	platform fabric slot *number* power required *number*
Tree	required
Units	watts
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	The power in use by this component
Context	platform fabric slot *number* power used *number*
Tree	used
Units	watts
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 fabric slot *number* rebooting-at *string*
Tree	rebooting-at
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

removable *boolean*

Description	Details if this component can be removed from the system
Context	platform fabric slot *number* removable *boolean*
Tree	removable
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

serial-number *string*

Description	The serial number for this component
Context	platform fabric slot *number* serial-number *string*
Tree	serial-number
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

temperature

Description	State related to temperature for this component
Context	platform fabric slot *number* temperature
Tree	temperature
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

alarm-status *boolean*

Description	Indicates if a temperature sensor of this component is currently in an alarm state An alarm state is triggered if the margin is <=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.

Context	platform fabric slot *number* temperature alarm-status *boolean*
Tree	alarm-status
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instant *number*

Description	Represents the highest current 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.
Context	platform fabric slot *number* temperature instant *number*
Tree	instant
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

margin *number*

Description	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.
Context	platform fabric slot *number* temperature margin *number*
Tree	margin
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum *number*

Description	Represents the highest temperature any sensor on this component has reached since it booted
Context	platform fabric slot *number* temperature maximum *number*
Tree	maximum
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum-time *string*

Description	Indicates the time this component reached the temperature referenced in the maximum field
Context	platform fabric slot *number* temperature maximum-time *string*
Tree	maximum-time
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *string*

Description	Fabric module type, as translated from the components EEPROM
Context	platform fabric slot *number* type *string*
Tree	type
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fan-tray id *number*

Description	Top-level container for fan module configuration and state
Context	platform fan-tray id *number*
Tree	fan-tray
Configurable	False
Platforms	Supported on all platforms

id *number*

Description	Numeric identifier for the fan tray
Context	platform fan-tray id *number*
Range	1 to 255
Configurable	False
Platforms	Supported on all platforms

clei-code *string*

Description	The Common Language Identification Code for this component

Context	platform fan-tray id *number* clei-code *string*
Tree	clei-code
Configurable	False
Platforms	Supported on all platforms

failure-reason *string*

Description	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
Context	platform fan-tray id *number* failure-reason *string*
Tree	failure-reason
Configurable	False
Platforms	Supported on all platforms

healthz

Description	The health of the component The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.
Context	platform fan-tray id *number* healthz
Tree	healthz
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description	Last unhealthy time The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.
Context	platform fan-tray id *number* healthz last-unhealthy *string*
Tree	last-unhealthy

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description Health status

The status of the component, indicating its current health.

Context platform fan-tray id *number* healthz status *keyword*

Tree status

Options

- unspecified

  Unspecified status

  The component's health status has not yet been checked by the system.
- healthy

  Healthy status

  The component is in a healthy state, and is operating within the expected parameters.
- unhealthy

  Unhealthy status

  The component is in a unhealthy state, it is not performing the function expected of it.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description Unhealthy count

The number of times the component has transitioned from the healthy state to any other state.

Context platform fan-tray id *number* healthz unhealthy-count *number*

Tree unhealthy-count

Default 0

Configurable False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-booted *string*

Description	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
Context	platform fan-tray id *number* last-booted *string*
Tree	last-booted
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-booted-reason *identityref*

Description	The reason this component last booted or rebooted For components without the ability to 'boot' this field is never populated
Context	platform fan-tray id *number* last-booted-reason *identityref*
Tree	last-booted-reason
Options	• user-initiated-reboot A user initiated the reboot directly via a management interface • power-failure The system rebooted the component due to insufficient power • critical-error The system rebooted the component due to an internal critical error
Configurable	False
Platforms	Supported on all platforms

last-change *string*

Description	The date and time this component last changed state
Context	platform fan-tray id *number* last-change *string*
Tree	last-change
String Length	20 to 32

Configurable	False
Platforms	Supported on all platforms

locator-state *keyword*

Description	Details if the locator LED is active on this component
Context	platform fan-tray id *number* locator-state *keyword*
Tree	locator-state
Default	inactive
Options	• active Locator LED is currently active • inactive Locator LED is currently inactive
Configurable	False
Platforms	Supported on all platforms

manufactured-date *string*

Description	The date this component was manufactured
Context	platform fan-tray id *number* manufactured-date *string*
Tree	manufactured-date
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

oper-reason *keyword*

Description	Indicates the reason for the current state of this fan tray
Context	platform fan-tray id *number* oper-reason *keyword*
Tree	oper-reason
Options	• fault Hardware fault detected • eeprom-invalid EEPROM of this fan tray is either invalid or corrupt • 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 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

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description The operational state of this component

Context platform fan-tray id *number* 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.

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	The power in use by this component
Context	platform fan-tray id *number* power used *number*
Tree	used
Units	watts
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

removable *boolean*

Description	Details if this component can be removed from the system
Context	platform fan-tray id *number* removable *boolean*
Tree	removable
Configurable	False
Platforms	Supported on all platforms

serial-number *string*

Description	The serial number for this component
Context	platform fan-tray id *number* serial-number *string*
Tree	serial-number
Configurable	False
Platforms	Supported on all platforms

speed *number*

Description	The current speed of the fan tray
Context	platform fan-tray id *number* speed *number*
Tree	speed
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

speed-rpm *number*

Description	The current RPM of the fan tray
Context	platform fan-tray id *number* speed-rpm *number*
Tree	speed-rpm
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *string*

Description	Fan tray type, as translated from the components EEPROM
Context	platform fan-tray id *number* type *string*
Tree	type
Configurable	False
Platforms	Supported on all platforms

linecard slot *number*

Description	Top-level container for linecard configuration and state
Context	platform linecard slot *number*
Tree	linecard
Configurable	True
Platforms	Supported on all platforms

slot *number*

Description	Numeric identifier for the linecard
Context	platform linecard slot *number*
Range	1 to 8
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	The administrative state of this component
Context	platform linecard slot *number* admin-state *keyword*

Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clei-code *string*

Description	The Common Language Identification Code for this component
Context	platform linecard slot *number* clei-code *string*
Tree	clei-code
Configurable	False
Platforms	Supported on all platforms

failure-reason *string*

Description	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
Context	platform linecard slot *number* failure-reason *string*
Tree	failure-reason
Configurable	False
Platforms	Supported on all platforms

forwarding-complex name *keyword*

Description	List of forwarding complexes on the linecard
Context	platform linecard slot *number* forwarding-complex name *keyword*
Tree	forwarding-complex
Configurable	True
Platforms	Supported on all platforms

name *keyword*

Description	The identifier of the forwarding complex

Context platform linecard slot *number* forwarding-complex name *keyword*

Options
- 0
- 1

Configurable True

Platforms Supported on all platforms

acl

Description Enter the acl context

Context platform linecard slot *number* forwarding-complex name *keyword* acl

Tree acl

Configurable 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

- input-acl-qos-template-policers

  This resource is used every time an IPv4 or IPv6 input subinterface filter entry uses a rate-limit policer, or subinterface policer-template is used.

- input-qos-template-policers

  This resource is used every time a QoS subinterface policer-template is used.

- input-acl-ipv4-policers

  This resource is used every time an IPv4 input subinterface filter entry uses a rate-limit policer.

- input-acl-ipv6-policers

  This resource is used every time an IPv6 input subinterface filter entry uses a rate-limit policer.

- output-acl-cpm-filter-policers

  This resource is used every time an IPv4 or IPv6 output subinterface filter or CPM filter entry uses a rate-limit policer.

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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

free *number*

Description Available buffer memory, which equals the total memory less the used memory and the reserved memory.

Context platform linecard slot *number* forwarding-complex name *keyword* buffer-memory free *number*

Tree free

Units bytes

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

reserved *number*

Description	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).
Context	platform linecard slot *number* forwarding-complex name *keyword* buffer-memory reserved *number*
Tree	reserved
Units	bytes
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

sram

Description	Container for utilization statistics of the on-chip SRAM memory.
Context	platform linecard slot *number* forwarding-complex name *keyword* buffer-memory sram
Tree	sram
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

free *number*

Description	Available SRAM memory
Context	platform linecard slot *number* forwarding-complex name *keyword* buffer-memory sram free *number*
Tree	free
Units	bytes
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used SRAM memory
Context	platform linecard slot *number* forwarding-complex name *keyword* buffer-memory sram used *number*
Tree	used
Units	bytes
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description	Used buffer memory, excluding reserved memory.
Context	platform linecard slot *number* forwarding-complex name *keyword* buffer-memory used *number*
Tree	used
Units	bytes
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4

datapath

Description	Container for monitoring datapath resources of a particular forwarding complex
Context	platform linecard slot *number* forwarding-complex name *keyword* datapath
Tree	datapath
Configurable	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 7220 IXR-D1/D2/D3/D2L/D3L: 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. 7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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 7220 IXR-D1/D2/D3/D2L/D3L: 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. 7220 IXR-H2/H3: 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 7220 IXR-D1/D2/D3/D2L/D3L: 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.

7220 IXR-H2/H3: 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

  Level 1 (top level) ECMP group resources.

- level-2-ecmp-groups

  Level 2 (middle level) ECMP group resources.

- level-3-ecmp-groups

  Level 3 (bottom level) ECMP group resources.

- level-1-ecmp-members

  Level 1 (top level) ECMP member resources.

- level-2-ecmp-members

  Level 2 (middle level) ECMP member resources.

- level-3-ecmp-members

  Level 3 (bottom level) ECMP member resources.

- level-1-non-ecmp-fecs

  Level 1 (top level) non-ECMP FEC resources.

- level-2-non-ecmp-fecs

  Level 2 (middle level) non-ECMP FEC resources.

- level-3-non-ecmp-fecs

Level 3 (bottom level) non-ECMP FEC resources.

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
Configurable	False
Platforms	Supported on all platforms

used-percent *number*

Description	The percentage of the resource that is currently used
Context	platform linecard slot *number* forwarding-complex name *keyword* datapath asic resource name *identityref* used-percent *number*
Tree	used-percent
Range	0 to 100
Configurable	False
Platforms	Supported on all platforms

xdp

Description	Container for monitoring datapath resources that are generic in concept.
Context	platform linecard slot *number* forwarding-complex name *keyword* datapath xdp

Tree	xdp
Configurable	False
Platforms	Supported on all platforms

resource name *identityref*

Description	List of generic datapath resources.
Context	platform linecard slot *number* forwarding-complex name *keyword* datapath xdp resource name *identityref*
Tree	resource
Configurable	False
Platforms	Supported on all platforms

name *identityref*

Description	The name of the XDP datapath resource
Context	platform linecard slot *number* forwarding-complex name *keyword* datapath xdp resource name *identityref*
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. 7220 IXR-D1/D2/D3/D2L/D3L: 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 7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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. 7250 IXR-6 and IXR-10: Every installed IPv4 and IPv6 route counts as one used route.

7220 IXR-D1/D2/D3/D2L/D3L and 7220 IXR-H2/H3: 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.

7220 IXR-D4/D5: 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

- mac-next-hops

  Direct MAC next-hop resources

  A resource consumed by every next-hop of a gRIBI route that is specified as an interface name plus MAC address

- direct-ip-next-hops

  Direct IP 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-ip-next-hops

  Indirect IP 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.

  7250 IXR-6 and IXR-10: Reports the used number of ECMP FECs, adding L1 ECMP FECs and L2 ECMP FECs.

  7220 IXR-D1/D2/D3/D2L/D3L: Reports the used number of ECMP groups, adding overlay and underlay ECMP groups.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: Reports used number of ECMP groups.

- ecmp-members

  ECMP member resources.

  7250 IXR-6 and IXR-10: Reports the used number of ECMP member FECs, adding L1 ECMP member FECs and L2 ECMP member FECs.

  7220 IXR-D1/D2/D3/D2L/D3L: Reports the used number of ECMP members, adding overlay and underlay ECMP members.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: Reports used number of ECMP members.

- egress-next-hops

  Egress next-hop resources.

  7220 IXR-D1/D2/D3/D2L/D3L: 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.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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.

- originating-tunnels

  Originating tunnel resources

One resource is used for every VXLAN, LDP, SR-ISIS or gRIBI tunnel originating on this node as head-end. On TD3 and TD4 systems this equates to a DVP resource.

- terminating-tunnels

  Terminating tunnel resources

  One resource is used for every gRIBI tunnel terminating entry on this node.

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*

Description The percentage of the resource that is currently used

Context platform linecard slot *number* forwarding-complex name *keyword* datapath xdp resource name *identityref* used-percent *number*

Tree used-percent

Range 0 to 100

Configurable False

Platforms Supported on all platforms

fabric

Description	Top-level container for fabric configuration and state
Context	platform linecard slot *number* forwarding-complex name *keyword* fabric
Tree	fabric
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

availability *number*

Description	Details the percentage bandwidth available to the fabric for the line card
Context	platform linecard slot *number* forwarding-complex name *keyword* fabric availability *number*
Tree	availability
Range	0 to 100
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

utilization-egress *number*

Description	Provides the linecard bandwidth utilization from the switch fabric
Context	platform linecard slot *number* forwarding-complex name *keyword* fabric utilization-egress *number*
Tree	utilization-egress
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

utilization-ingress *number*

Description	Provides the linecard bandwidth utilization into the switch fabric
Context	platform linecard slot *number* forwarding-complex name *keyword* fabric utilization-ingress *number*
Tree	utilization-ingress
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fib-table

Description	Enter the fib-table context
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table
Tree	fib-table
Configurable	False
Platforms	Supported on all platforms

next-hop-group index *number*

Description	List of next hop groups (NHGs) in the FIB table
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number*
Tree	next-hop-group
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	A system-wide unique identifier of a next-hop-group
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number*
Configurable	False
Platforms	Supported on all platforms

backup-active *boolean*

Description	When true, this NHG is not being used to forward traffic and its backup NHG is being relied upon to provide reachability
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* backup-active *boolean*
Tree	backup-active
Configurable	False
Platforms	Supported on all platforms

backup-next-hop-group *reference*

Description	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.
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* backup-next-hop-group *reference*
Tree	backup-next-hop-group
Reference	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number*
Configurable	False
Platforms	Supported on all platforms

next-hop id *number*

Description	Enter the next-hop list instance
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* next-hop id *number*
Tree	next-hop
Configurable	False
Platforms	Supported on all platforms

id *number*

Description	Index of the next-hop within the NHG
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* next-hop id *number*
Range	0 to 1023
Configurable	False
Platforms	Supported on all platforms

next-hop *number*

Description	The system-wide unique identifier of the next-hop object
Context	platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* next-hop id *number* next-hop *number*
Tree	next-hop
Configurable	False

Platforms Supported on all platforms

oper-state *keyword*

Description Operational state of the next-hop member

Context platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* next-hop id *number* oper-state *keyword*

Tree oper-state

Options

- up

  The NHG or NH is fully resolved and operational
- down

  The NHG or NH is unresolved and not viable for carrying traffic
- failed

  The NHG or NH is not operational because of an underlying hardware resource issue

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description Operational state of the next-hop group

Context platform linecard slot *number* forwarding-complex name *keyword* fib-table next-hop-group index *number* oper-state *keyword*

Tree oper-state

Options

- up

  The NHG or NH is fully resolved and operational
- down

  The NHG or NH is unresolved and not viable for carrying traffic
- failed

  The NHG or NH is not operational because of an underlying hardware resource issue

Configurable False

Platforms Supported on all platforms

last-booted *string*

Description 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
Context	platform linecard slot *number* forwarding-complex name *keyword* last-booted *string*
Tree	last-booted
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-booted-reason *identityref*

Description	The reason this component last booted or rebooted For components without the ability to 'boot' this field is never populated
Context	platform linecard slot *number* forwarding-complex name *keyword* last-booted-reason *identityref*
Tree	last-booted-reason
Options	• user-initiated-reboot A user initiated the reboot directly via a management interface • power-failure The system rebooted the component due to insufficient power • critical-error The system rebooted the component due to an internal critical error
Configurable	False
Platforms	Supported on all platforms

last-change *string*

Description	The date and time this component last changed state
Context	platform linecard slot *number* forwarding-complex name *keyword* last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

mtu

Description Enter the mtu context

Context platform linecard slot *number* forwarding-complex name *keyword* mtu

Tree mtu

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

resource name *identityref*

Description Enter the resource list instance

Context platform linecard slot *number* forwarding-complex name *keyword* mtu resource name *identityref*

Tree resource

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *identityref*

Description The name of the MTU resource

Context platform linecard slot *number* forwarding-complex name *keyword* mtu resource name *identityref*

Options

- 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.

- 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.

- mpls-mtu

  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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

free *number*

Description The number of resources that are unused and available

Context platform linecard slot *number* forwarding-complex name *keyword* mtu resource name *identityref* free *number*

Tree free

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

used *number*

Description The number of resources that are in use

Context platform linecard slot *number* forwarding-complex name *keyword* mtu resource name *identityref* used *number*

Tree used

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description The operational state of this component

Context platform linecard slot *number* forwarding-complex name *keyword* 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.

Configurable False

Platforms Supported on all platforms

p4rt

Description Top-level container for P4Runtime forwarding complex configuration and state

Context platform linecard slot *number* forwarding-complex name *keyword* p4rt

Tree p4rt

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description 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.

Each ASIC is addressed by the client based on this numeric identifier.

Context	platform linecard slot *number* forwarding-complex name *keyword* p4rt id *number*
Tree	id
Range	1 to 18446744073709551615
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

part-number *string*

Description	Part number for this component
Context	platform linecard slot *number* forwarding-complex name *keyword* part-number *string*
Tree	part-number
Configurable	False
Platforms	Supported on all platforms

pipeline index *(number | keyword)*

Description	List of pipelines that make up one forwarding complex.
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)*
Tree	pipeline
Configurable	True
Platforms	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

index *(number | keyword)*

Description	The pipeline number (TH3 systems) or direction (J2 and J2C+ systems).
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)*
Range	0 to 7
Options	• egress Applicable to J2 and J2C+ systems only • ingress Applicable to J2 and J2C+ systems only
Configurable	True

Platforms	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

datapath

Description	Container for monitoring datapath resources of a particular pipeline
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* datapath
Tree	datapath
Configurable	False
Platforms	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

xdp

Description	Container for monitoring datapath resources that are generic in concept. At the pipeline level only one XDP resource is currently reported:
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* datapath xdp
Tree	xdp
Configurable	False
Platforms	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

resource name *identityref*

Description	List of generic datapath resources.
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* datapath xdp resource name *identityref*
Tree	resource
Configurable	False
Platforms	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *identityref*

Description	The name of the XDP datapath resource

Context

platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* datapath xdp resource name *identityref*

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.

  7220 IXR-D1/D2/D3/D2L/D3L: 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

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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.

  7250 IXR-6 and IXR-10: Every installed IPv4 and IPv6 route counts as one used route.

  7220 IXR-D1/D2/D3/D2L/D3L and 7220 IXR-H2/H3: 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.

  7220 IXR-D4/D5: 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

- mac-next-hops

  Direct MAC next-hop resources

  A resource consumed by every next-hop of a gRIBI route that is specified as an interface name plus MAC address

- direct-ip-next-hops

Direct IP 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-ip-next-hops

  Indirect IP 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.

  7250 IXR-6 and IXR-10: Reports the used number of ECMP FECs, adding L1 ECMP FECs and L2 ECMP FECs.

  7220 IXR-D1/D2/D3/D2L/D3L: Reports the used number of ECMP groups, adding overlay and underlay ECMP groups.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: Reports used number of ECMP groups.

- ecmp-members

  ECMP member resources.

  7250 IXR-6 and IXR-10: Reports the used number of ECMP member FECs, adding L1 ECMP member FECs and L2 ECMP member FECs.

  7220 IXR-D1/D2/D3/D2L/D3L: Reports the used number of ECMP members, adding overlay and underlay ECMP members.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: Reports used number of ECMP members.

- egress-next-hops

  Egress next-hop resources.

  7220 IXR-D1/D2/D3/D2L/D3L: 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.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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.

- originating-tunnels

  Originating tunnel resources

  One resource is used for every VXLAN, LDP, SR-ISIS or gRIBI tunnel originating on this node as head-end. On TD3 and TD4 systems this equates to a DVP resource.

- terminating-tunnels

  Terminating tunnel resources

  One resource is used for every gRIBI tunnel terminating entry on this node.

Configurable False

Platforms 7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*
Tree	used-percent
Range	0 to 100
Configurable	False
Platforms	7220 IXR-H2, 7220 IXR-H3, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

pipeline-counters

Description	Top-level container for the packet counters associated with the different NPU sub-blocks.
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters
Tree	pipeline-counters
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

host-interface-block

Description	The ASIC host interface block subsystem that connects the NPU to the host CPU (on the CPM)
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block
Tree	host-interface-block
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

packet-extraction

Description	Packet extraction from the NPU towards the CPU
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction
Tree	packet-extraction
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extracted-octets *number*

Description	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
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction extracted-octets *number*
Tree	extracted-octets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extracted-packets *number*

Description	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

Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction extracted-packets *number*
Tree	extracted-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extraction-reason reason *identityref*

Description	List of extraction reasons that are possible for the pipeline
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction extraction-reason reason *identityref*
Tree	extraction-reason
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

reason *identityref*

Description	A reason for extracting the packet towards the host CPU
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction extraction-reason reason *identityref*
Options	• ipv4-header-options IPv4 header options are present in the packet. • ipv6-hop-by-hop-option IPv6 packet with topmost next-header value of zero. • icmp ICMPv4 packets with this router as destination. • icmp6 ICMPv6 packets including neighbor-solicitation and neighbor-advertisement messages. • icmp-redirect Received IPv4 and IPv6 packets that should cause an ICMP redirect to be generated. • bfd BFD and micro-BFD packets with this router as destination.

- bgp

  BGP packets; TCP port 179.
- grpc

  GRPC packets; TCP port 57400
- ospf

  OSPF packets; IP protocol 89
- vrrp

  VRRP packets; IP protocol 112
- ldp

  LDP packets; UDP port 646
- dhcp

  DHCP packets; UDP ports 67,68
- ip-other-terminating

  Any other IP packets that are locally destined
- ip-blackhole-icmp

  Traffic matched a blackhole route with generate-icmp=true
- ipv6-multicast

  IPv6 DA = FF01:0:0:0:0:0:0:1 or IPv6 DA = FF01:0:0:0:0:0:0:2
- ipv6-link-local

  IPv6 DA = FE80::/10 address
- 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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extracted-octets *number*

Description 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

Context platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction extraction-reason reason *identityref* extracted-octets *number*

Tree extracted-octets

Default 0

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

extracted-packets *number*

Description	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
Context	platform linecard slot *number* forwarding-complex name *keyword* pipeline index *(number | keyword)* pipeline-counters host-interface-block packet-extraction extraction-reason reason *identityref* extracted-packets *number*
Tree	extracted-packets
Default	0
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

qos

Description	Enter the qos context
Context	platform linecard slot *number* forwarding-complex name *keyword* qos
Tree	qos
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

resource name *identityref*

Description	Enter the resource list instance
Context	platform linecard slot *number* forwarding-complex name *keyword* qos resource name *identityref*
Tree	resource
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *identityref*

Description	The name of the QoS resource
Context	platform linecard slot *number* forwarding-complex name *keyword* qos resource name *identityref*
Options	• 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.

- 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.

- dscp-classifier-policies

  Every user-defined DSCP classifier policy that is configured uses one of these resources

- dscp-mpls-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.

- dscp-rewrite-policies

  Every user-defined dscp rewrite policy that is configured uses one of these resources.

- dot1p-classifier-policies

  Every user-defined dot1p classifier policy that is configured uses one of these resources

- dot1p-rewrite-policies

  Every user-defined dot1p rewrite policy that is configured uses one of these resources

Configurable False

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

free *number*

Description The number of resources that are unused and available

Context platform linecard slot *number* forwarding-complex name *keyword* qos resource name *identityref* free *number*

Tree free

Configurable False

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

used *number*

Description	The number of resources that are in use
Context	platform linecard slot *number* forwarding-complex name *keyword* qos resource name *identityref* used *number*
Tree	used
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

removable *boolean*

Description	Details if this component can be removed from the system
Context	platform linecard slot *number* forwarding-complex name *keyword* removable *boolean*
Tree	removable
Configurable	False
Platforms	Supported on all platforms

tcam

Description	Enter the tcam context
Context	platform linecard slot *number* forwarding-complex name *keyword* tcam
Tree	tcam
Configurable	False
Platforms	Supported on all platforms

resource name *identityref*

Description	Enter the resource list instance
Context	platform linecard slot *number* forwarding-complex name *keyword* tcam resource name *identityref*
Tree	resource
Configurable	False
Platforms	Supported on all platforms

name *identityref*

Description The name of the TCAM resource

Context platform linecard slot *number* forwarding-complex name *keyword* tcam resource name *identityref*

Options

- if-input-ipv4

  Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-input filers

- if-output-ipv4

  Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-output filers

- if-input-ipv6

  Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-input filers

- if-output-ipv6

  Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-output filers

- 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 filers

- 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

- mrouter-mfib-redirect

  Resource pool of TCAM entries used by multicast snooping protocols in MAC-VRF network-instances

  One TCAM entry is used per multicast snooping protocol enabled in a MAC-VRF. For instance, if igmp-snooping and mld-snooping are enabled on a MAC-VRF, two entries are used. If only igmp-snooping is enabled, only one entry is used.

Configurable False

Platforms Supported on all platforms

free-dynamic *number*

Description 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).

Context platform linecard slot *number* forwarding-complex name *keyword* tcam resource name *identityref* free-dynamic *number*

Tree	free-dynamic
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

free-static *number*

Description	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.
Context	platform linecard slot *number* forwarding-complex name *keyword* tcam resource name *identityref* free-static *number*
Tree	free-static
Configurable	False
Platforms	Supported on all platforms

programmed *number*

Description	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.
Context	platform linecard slot *number* forwarding-complex name *keyword* tcam resource name *identityref* programmed *number*
Tree	programmed
Configurable	False
Platforms	Supported on all platforms

reserved *number*

Description	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.
Context	platform linecard slot *number* forwarding-complex name *keyword* tcam resource name *identityref* reserved *number*
Tree	reserved
Configurable	False
Platforms	Supported on all platforms

healthz

Description The health of the component

The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.

Context platform linecard slot *number* healthz

Tree healthz

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description Last unhealthy time

The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.

Context platform linecard slot *number* healthz last-unhealthy *string*

Tree last-unhealthy

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description Health status

The status of the component, indicating its current health.

Context platform linecard slot *number* healthz status *keyword*

Tree status

Options

- unspecified

  Unspecified status

  The component's health status has not yet been checked by the system.

- healthy

  Healthy status

  The component is in a healthy state, and is operating within the expected parameters.

- unhealthy

  Unhealthy status

  The component is in a unhealthy state, it is not performing the function expected of it.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description Unhealthy count

The number of times the component has transitioned from the healthy state to any other state.

Context platform linecard slot *number* healthz unhealthy-count *number*

Tree unhealthy-count

Default 0

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-booted *string*

Description 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

Context platform linecard slot *number* last-booted *string*

Tree last-booted

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

last-booted-reason *identityref*

Description The reason this component last booted or rebooted

For components without the ability to 'boot' this field is never populated

Context platform linecard slot *number* last-booted-reason *identityref*

Tree last-booted-reason

Options

- user-initiated-reboot

  A user initiated the reboot directly via a management interface
- power-failure

  The system rebooted the component due to insufficient power
- critical-error

  The system rebooted the component due to an internal critical error

Configurable False

Platforms Supported on all platforms

last-change *string*

Description The date and time this component last changed state

Context platform linecard slot *number* last-change *string*

Tree last-change

String Length 20 to 32

Configurable False

Platforms Supported on all platforms

locator-state *keyword*

Description Details if the locator LED is active on this component

Context platform linecard slot *number* locator-state *keyword*

Tree locator-state

Default inactive

Options

- active

  Locator LED is currently active
- inactive

  Locator LED is currently inactive

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

manufactured-date *string*

Description	The date this component was manufactured
Context	platform linecard slot *number* manufactured-date *string*
Tree	manufactured-date
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	The operational state of this component
Context	platform linecard slot *number* 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.

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*
Tree	rebooting-at
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

removable *boolean*

Description	Details if this component can be removed from the system
Context	platform linecard slot *number* removable *boolean*
Tree	removable
Configurable	False
Platforms	Supported on all platforms

serial-number *string*

Description	The serial number for this component
Context	platform linecard slot *number* serial-number *string*
Tree	serial-number
Configurable	False

Platforms	Supported on all platforms

software-version *string*

Description	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.
Context	platform linecard slot *number* software-version *string*
Tree	software-version
Configurable	False
Platforms	Supported on all platforms

temperature

Description	State related to temperature for this component
Context	platform linecard slot *number* temperature
Tree	temperature
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

alarm-status *boolean*

Description	Indicates if a temperature sensor of this component is currently in an alarm state An alarm state is triggered if the margin is <=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.
Context	platform linecard slot *number* temperature alarm-status *boolean*
Tree	alarm-status
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instant *number*

Description	Represents the highest current 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.

Context platform linecard slot *number* temperature instant *number*

Tree instant

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

margin *number*

Description 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.

Context platform linecard slot *number* temperature margin *number*

Tree margin

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum *number*

Description Represents the highest temperature any sensor on this component has reached since it booted

Context platform linecard slot *number* temperature maximum *number*

Tree maximum

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

maximum-time *string*

Description Indicates the time this component reached the temperature referenced in the maximum field

Context platform linecard slot *number* temperature maximum-time *string*

Tree maximum-time

String Length 20 to 32

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

type *string*

Description	Linecard type, as translated from the components EEPROM
Context	platform linecard slot *number* type *string*
Tree	type
Configurable	False
Platforms	Supported on all platforms

power-supply id *number*

Description	Top-level container for power supply module configuration and state
Context	platform power-supply id *number*
Tree	power-supply
Configurable	False
Platforms	Supported on all platforms

id *number*

Description	Numeric identifier for the power supply module
Context	platform power-supply id *number*
Range	1 to 255
Configurable	False
Platforms	Supported on all platforms

capacity *number*

Description	The total capacity the power supply module can provide
Context	platform power-supply id *number* capacity *number*
Tree	capacity
Units	watts
Configurable	False
Platforms	Supported on all platforms

clei-code *string*

Description	The Common Language Identification Code for this component

Context	platform power-supply id *number* clei-code *string*
Tree	clei-code
Configurable	False
Platforms	Supported on all platforms

failure-reason *string*

Description	The reason the component transitioned to a failed state Field is empty if the component is not currently in a failure state
Context	platform power-supply id *number* failure-reason *string*
Tree	failure-reason
Configurable	False
Platforms	Supported on all platforms

fan

Description	Top-level container for state relating to fans
Context	platform power-supply id *number* fan
Tree	fan
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

speed *number*

Description	The current speed of the fan
Context	platform power-supply id *number* fan speed *number*
Tree	speed
Range	0 to 100
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

speed-rpm *number*

Description	The current RPM of the fan
Context	platform power-supply id *number* fan speed-rpm *number*
Tree	speed-rpm

Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

feed id *number*

Description	List of feeds on this power-supply
Context	platform power-supply id *number* feed id *number*
Tree	feed
Configurable	False
Platforms	7250 IXR-10e, 7250 IXR-6e

id *number*

Description	ID of the feed
Context	platform power-supply id *number* feed id *number*
Configurable	False
Platforms	7250 IXR-10e, 7250 IXR-6e

current *decimal-number*

Description	Current input amperage of this feed
Context	platform power-supply id *number* feed id *number* current *decimal-number*
Tree	current
Units	amps
Configurable	False
Platforms	7250 IXR-10e, 7250 IXR-6e

voltage *decimal-number*

Description	Current input voltage for this feed
Context	platform power-supply id *number* feed id *number* voltage *decimal-number*
Tree	voltage
Units	volts
Configurable	False
Platforms	7250 IXR-10e, 7250 IXR-6e

healthz

Description The health of the component

The paramaters within this container indicate the status of the component beyond whether it is operationally up or down. When a signal is received that a component is in an unhealthy state the gNOI.Healthz service can be used to retrieve further diagnostic information relating to the component. The contents of this directory relate only to the specific component that it is associated with.

Context platform power-supply id *number* healthz

Tree healthz

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-unhealthy *string*

Description Last unhealthy time

The time at which the component was last observed to transition from the healthy state to any other state, represented as nanoseconds since the Unix epoch.

Context platform power-supply id *number* healthz last-unhealthy *string*

Tree last-unhealthy

String Length 20 to 32

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description Health status

The status of the component, indicating its current health.

Context platform power-supply id *number* healthz status *keyword*

Tree status

Options

- unspecified

  Unspecified status

  The component's health status has not yet been checked by the system.

- healthy

  Healthy status

  The component is in a healthy state, and is operating within the expected parameters.

- unhealthy

  Unhealthy status

  The component is in a unhealthy state, it is not performing the function expected of it.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unhealthy-count *number*

Description Unhealthy count

The number of times the component has transitioned from the healthy state to any other state.

Context platform power-supply id *number* healthz unhealthy-count *number*

Tree unhealthy-count

Default 0

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

input

Description Top-level container for power-supply input state

Context platform power-supply id *number* input

Tree input

Configurable False

Platforms Supported on all platforms

current *decimal-number*

Description Current amperage input/output for the power-supply

Context platform power-supply id *number* input current *decimal-number*

Tree	current
Units	amps
Configurable	False
Platforms	Supported on all platforms

power *decimal-number*

Description	Current power input/output for the power-supply
Context	platform power-supply id *number* input power *decimal-number*
Tree	power
Units	watts
Configurable	False
Platforms	Supported on all platforms

voltage *decimal-number*

Description	Current voltage input/output for the power-supply
Context	platform power-supply id *number* input voltage *decimal-number*
Tree	voltage
Units	volts
Configurable	False
Platforms	Supported on all platforms

last-booted *string*

Description	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
Context	platform power-supply id *number* last-booted *string*
Tree	last-booted
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-booted-reason *identityref*

Description	The reason this component last booted or rebooted For components without the ability to 'boot' this field is never populated
Context	platform power-supply id *number* last-booted-reason *identityref*
Tree	last-booted-reason
Options	• user-initiated-reboot A user initiated the reboot directly via a management interface • power-failure The system rebooted the component due to insufficient power • critical-error The system rebooted the component due to an internal critical error
Configurable	False
Platforms	Supported on all platforms

last-change *string*

Description	The date and time this component last changed state
Context	platform power-supply id *number* last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

manufactured-date *string*

Description	The date this component was manufactured
Context	platform power-supply id *number* manufactured-date *string*
Tree	manufactured-date
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

oper-reason *keyword*

Description	Indicates the reason for the current state of the component

Context platform power-supply id *number* oper-reason *keyword*

Tree oper-reason

Options

- no-input/fault

  No power input, or other hardware fault detected
- eeprom-invalid

  EEPROM of this power supply is either invalid or corrupt
- 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

Configurable False

Platforms Supported on all platforms

oper-state *keyword*

Description The operational state of this component

Context platform power-supply id *number* 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.

Configurable False

Platforms Supported on all platforms

output

Description Top-level container for power-supply output state

Context platform power-supply id *number* output

Tree output

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

current *decimal-number*

Description Current amperage input/output for the power-supply

Context platform power-supply id *number* output current *decimal-number*

Tree current

Units amps

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

power *decimal-number*

Description	Current power input/output for the power-supply
Context	platform power-supply id *number* output power *decimal-number*
Tree	power
Units	watts
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

voltage *decimal-number*

Description	Current voltage input/output for the power-supply
Context	platform power-supply id *number* output voltage *decimal-number*
Tree	voltage
Units	volts
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Description	Details if this component can be removed from the system
Context	platform power-supply id *number* removable *boolean*
Tree	removable
Configurable	False
Platforms	Supported on all platforms

serial-number *string*

Description	The serial number for this component

Context	platform power-supply id *number* serial-number *string*
Tree	serial-number
Configurable	False
Platforms	Supported on all platforms

temperature

Description	State related to temperature for this component
Context	platform power-supply id *number* temperature
Tree	temperature
Configurable	False
Platforms	Supported on all platforms

alarm-status *boolean*

Description	Indicates if a temperature sensor of this component is currently in an alarm state An alarm state is triggered if the margin is <=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.
Context	platform power-supply id *number* temperature alarm-status *boolean*
Tree	alarm-status
Configurable	False
Platforms	Supported on all platforms

instant *number*

Description	Represents the highest current 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.
Context	platform power-supply id *number* temperature instant *number*
Tree	instant
Configurable	False
Platforms	Supported on all platforms

maximum *number*

Description	Represents the highest temperature any sensor on this component has reached since it booted
Context	platform power-supply id *number* temperature maximum *number*
Tree	maximum
Configurable	False
Platforms	Supported on all platforms

maximum-time *string*

Description	Indicates the time this component reached the temperature referenced in the maximum field
Context	platform power-supply id *number* temperature maximum-time *string*
Tree	maximum-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

type *string*

Description	Power-supply type, as translated from the components EEPROM
Context	platform power-supply id *number* type *string*
Tree	type
Configurable	False
Platforms	Supported on all platforms

redundancy

Description	Top-level container for platform redundancy
Context	platform redundancy
Tree	redundancy
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

active-module *keyword*

Description	Control module currently active
Context	platform redundancy active-module *keyword*
Tree	active-module
Options	• A • B
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

failover-time *string*

Description	Date and time of the last control module failover
Context	platform redundancy failover-time *string*
Tree	failover-time
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

synchronization

Description	Top-level container for redundancy synchronization
Context	platform redundancy synchronization
Tree	synchronization
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-synchronization *string*

Description	Last date and time a synchronization of system files occurred
Context	platform redundancy synchronization last-synchronization *string*
Tree	last-synchronization
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

overlay

Description	Top-level container for overlay synchronization
Context	platform redundancy synchronization overlay
Tree	overlay
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-synchronization *string*

Description	Last date and time a synchronization of the overlay occurred
Context	platform redundancy synchronization overlay last-synchronization *string*
Tree	last-synchronization
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

next-synchronization *string*

Description	Next date and time a synchronization of the overlay will occur
Context	platform redundancy synchronization overlay next-synchronization *string*
Tree	next-synchronization
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

synchronization-frequency *number*

Description	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.
Context	platform redundancy synchronization overlay synchronization-frequency *number*
Tree	synchronization-frequency
Range	30 to 65535

Default	60
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

state *keyword*

Description	Current synchronization status
Context	platform redundancy synchronization state *keyword*
Tree	state
Options	• synchronized Standby control module is ready and synchronized • synchronizing Standby control module is currently synchronizing • not-ready Standby control module is not synchronized
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

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

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

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*

Tree ipv6-128bit-lpm-entries

Range 0 to 8192

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-H2, 7220 IXR-H3

requested-extra-ip-host-entries *number*

Description The extra number of host entries that are desired.

The number of UFT shared banks that are reserved for IPv4 and IPv6 host entries is given by: min(N//X,P-A)

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

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.

All UFT shared banks that are not reserved by ALPM and not reserved for extra IP host entries are used for extra MAC entries.

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.

Context	platform resource-management unified-forwarding-resources requested-extra-ip-host-entries *number*
Tree	requested-extra-ip-host-entries
Range	0 to 262144
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

xdp-restart-required *boolean*

Description	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.
Context	platform resource-management unified-forwarding-resources xdp-restart-required *boolean*
Tree	xdp-restart-required
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3

resource-monitoring

Description	Enter the resource-monitoring context
Context	platform resource-monitoring
Tree	resource-monitoring
Configurable	True
Platforms	Supported on all platforms

acl

Description	Enter the acl context
Context	platform resource-monitoring acl
Tree	acl
Configurable	True
Platforms	Supported on all platforms

resource name *identityref*

Description Enter the resource list instance

Context platform resource-monitoring acl resource name *identityref*

Tree resource

Configurable True

Platforms Supported on all platforms

name *identityref*

Description The name of the ACL resource

Context platform resource-monitoring 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

- input-acl-qos-template-policers

  This resource is used every time an IPv4 or IPv6 input subinterface filter entry uses a rate-limit policer, or subinterface policer-template is used.

- input-qos-template-policers

  This resource is used every time a QoS subinterface policer-template is used.

- input-acl-ipv4-policers

  This resource is used every time an IPv4 input subinterface filter entry uses a rate-limit policer.

- input-acl-ipv6-policers

  This resource is used every time an IPv6 input subinterface filter entry uses a rate-limit policer.

- output-acl-cpm-filter-policers

  This resource is used every time an IPv4 or IPv6 output subinterface filter or CPM filter entry uses a rate-limit policer.

Configurable	True
Platforms	Supported on all platforms

falling-threshold-log *number*

Description	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
Context	platform resource-monitoring acl resource name *identityref* falling-threshold-log *number*
Tree	falling-threshold-log
Range	0 to 100
Default	70
Configurable	True
Platforms	Supported on all platforms

rising-threshold-log *number*

Description	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
Context	platform resource-monitoring acl resource name *identityref* rising-threshold-log *number*
Tree	rising-threshold-log
Range	0 to 100
Default	90
Configurable	True
Platforms	Supported on all platforms

datapath

Description	Container for monitoring datapath resources system-wide
Context	platform resource-monitoring datapath
Tree	datapath
Configurable	True
Platforms	Supported on all platforms

asic

Description	Container for monitoring datapath resources that are specific to a subset of the chipsets supported by SRLinux.
Context	platform resource-monitoring datapath asic
Tree	asic
Configurable	True
Platforms	Supported on all platforms

resource name *identityref*

Description	List of ASIC-specific datapath resources
Context	platform resource-monitoring datapath asic resource name *identityref*
Tree	resource
Configurable	True
Platforms	Supported on all platforms

name *identityref*

Description	The name of the ASIC-specific datapath resource.
Context	platform resource-monitoring datapath asic resource name *identityref*
Options	• ip-lpm-ipv4-routes 7220 IXR-D1/D2/D3/D2L/D3L: 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. 7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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 7220 IXR-D1/D2/D3/D2L/D3L: 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.

7220 IXR-H2/H3: 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

  7220 IXR-D1/D2/D3/D2L/D3L: 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.

  7220 IXR-H2/H3: 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

  Level 1 (top level) ECMP group resources.

- level-2-ecmp-groups

  Level 2 (middle level) ECMP group resources.

- level-3-ecmp-groups

  Level 3 (bottom level) ECMP group resources.

- level-1-ecmp-members

  Level 1 (top level) ECMP member resources.

- level-2-ecmp-members

Level 2 (middle level) ECMP member resources.

- level-3-ecmp-members

  Level 3 (bottom level) ECMP member resources.

- level-1-non-ecmp-fecs

  Level 1 (top level) non-ECMP FEC resources.

- level-2-non-ecmp-fecs

  Level 2 (middle level) non-ECMP FEC resources.

- level-3-non-ecmp-fecs

  Level 3 (bottom level) non-ECMP FEC resources.

Configurable True

Platforms Supported on all platforms

falling-threshold-log *number*

Description 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

Context platform resource-monitoring datapath asic resource name *identityref* falling-threshold-log *number*

Tree falling-threshold-log

Range 0 to 100

Default 70

Configurable True

Platforms Supported on all platforms

rising-threshold-log *number*

Description 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

Context platform resource-monitoring datapath asic resource name *identityref* rising-threshold-log *number*

Tree rising-threshold-log

Range 0 to 100

Default 90

Configurable True

Platforms	Supported on all platforms

xdp

Description	Container for monitoring datapath resources that are generic in concept.
Context	platform resource-monitoring datapath xdp
Tree	xdp
Configurable	True
Platforms	Supported on all platforms

resource name *identityref*

Description	List of generic datapath resources
Context	platform resource-monitoring datapath xdp resource name *identityref*
Tree	resource
Configurable	True
Platforms	Supported on all platforms

name *identityref*

Description

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.

Context platform resource-monitoring datapath xdp resource name *identityref*

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.

  7220 IXR-D1/D2/D3/D2L/D3L: 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

7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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.

  7250 IXR-6 and IXR-10: Every installed IPv4 and IPv6 route counts as one used route.

  7220 IXR-D1/D2/D3/D2L/D3L and 7220 IXR-H2/H3: 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.

  7220 IXR-D4/D5: 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

- mac-next-hops

  Direct MAC next-hop resources

  A resource consumed by every next-hop of a gRIBI route that is specified as an interface name plus MAC address

- direct-ip-next-hops

  Direct IP 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-ip-next-hops

  Indirect IP 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.

  7250 IXR-6 and IXR-10: Reports the used number of ECMP FECs, adding L1 ECMP FECs and L2 ECMP FECs.

  7220 IXR-D1/D2/D3/D2L/D3L: Reports the used number of ECMP groups, adding overlay and underlay ECMP groups.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: Reports used number of ECMP groups.

- ecmp-members

  ECMP member resources.

  7250 IXR-6 and IXR-10: Reports the used number of ECMP member FECs, adding L1 ECMP member FECs and L2 ECMP member FECs.

  7220 IXR-D1/D2/D3/D2L/D3L: Reports the used number of ECMP members, adding overlay and underlay ECMP members.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: Reports used number of ECMP members.

- egress-next-hops

  Egress next-hop resources.

  7220 IXR-D1/D2/D3/D2L/D3L: 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.

  7220 IXR-D4/D5 and 7220 IXR-H2/H3: 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.

- originating-tunnels

  Originating tunnel resources

  One resource is used for every VXLAN, LDP, SR-ISIS or gRIBI tunnel originating on this node as head-end. On TD3 and TD4 systems this equates to a DVP resource.

- terminating-tunnels

  Terminating tunnel resources

  One resource is used for every gRIBI tunnel terminating entry on this node.

Configurable True

Platforms Supported on all platforms

falling-threshold-log *number*

Description 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

Context platform resource-monitoring datapath xdp resource name *identityref* falling-threshold-log *number*

Tree falling-threshold-log

Range 0 to 100

Default 70

Configurable True

Platforms Supported on all platforms

rising-threshold-log *number*

Description 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

Context	platform resource-monitoring datapath xdp resource name *identityref* rising-threshold-log *number*
Tree	rising-threshold-log
Range	0 to 100
Default	90
Configurable	True
Platforms	Supported on all platforms

mtu

Description	Enter the mtu context
Context	platform resource-monitoring mtu
Tree	mtu
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

resource name *identityref*

Description	Enter the resource list instance
Context	platform resource-monitoring mtu resource name *identityref*
Tree	resource
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *identityref*

Description	The name of the MTU resource
Context	platform resource-monitoring mtu resource name *identityref*
Options	• 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. • 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. • mpls-mtu

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.

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

falling-threshold-log *number*

Description 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.

Context platform resource-monitoring mtu resource name *identityref* falling-threshold-log *number*

Tree falling-threshold-log

Range 0 to 100

Default 70

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rising-threshold-log *number*

Description 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.

Context platform resource-monitoring mtu resource name *identityref* rising-threshold-log *number*

Tree rising-threshold-log

Range 0 to 100

Default 90

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

qos

Description Enter the qos context

Context platform resource-monitoring qos

Tree	qos
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

resource name *identityref*

Description	Enter the resource list instance
Context	platform resource-monitoring qos resource name *identityref*
Tree	resource
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *identityref*

Description	The name of the QoS resource
Context	platform resource-monitoring qos resource name *identityref*
Options	• 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. • 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. • dscp-classifier-policies Every user-defined DSCP classifier policy that is configured uses one of these resources • dscp-mpls-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. • dscp-rewrite-policies Every user-defined dscp rewrite policy that is configured uses one of these resources. • dot1p-classifier-policies

Every user-defined dot1p classifier policy that is configured uses one of these resources

- dot1p-rewrite-policies

  Every user-defined dot1p rewrite policy that is configured uses one of these resources

Configurable True

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

falling-threshold-log *number*

Description 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

Context platform resource-monitoring qos resource name *identityref* falling-threshold-log *number*

Tree falling-threshold-log

Range 0 to 100

Default 70

Configurable True

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

rising-threshold-log *number*

Description 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

Context platform resource-monitoring qos resource name *identityref* rising-threshold-log *number*

Tree rising-threshold-log

Range 0 to 100

Default 90

Configurable True

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

tcam

Description Enter the tcam context

Context platform resource-monitoring tcam

Tree tcam

Configurable True

Platforms Supported on all platforms

resource name *identityref*

Description Enter the resource list instance

Context platform resource-monitoring tcam resource name *identityref*

Tree resource

Configurable True

Platforms 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 filers

- if-output-ipv4

  Resource pool of TCAM entries used by IPv4 ACLs applied as subinterface-output filers

- if-input-ipv6

  Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-input filers

- if-output-ipv6

  Resource pool of TCAM entries used by IPv6 ACLs applied as subinterface-output filers

- 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 filers

- 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

- mrouter-mfib-redirect

Resource pool of TCAM entries used by multicast snooping protocols in MAC-VRF network-instances

One TCAM entry is used per multicast snooping protocol enabled in a MAC-VRF. For instance, if igmp-snooping and mld-snooping are enabled on a MAC-VRF, two entries are used. If only igmp-snooping is enabled, only one entry is used.

Configurable True

Platforms Supported on all platforms

falling-threshold-log *number*

Description 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.

Context platform resource-monitoring tcam resource name *identityref* falling-threshold-log *number*

Tree falling-threshold-log

Range 0 to 100

Default 70

Configurable True

Platforms Supported on all platforms

rising-threshold-log *number*

Description 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.

Context platform resource-monitoring tcam resource name *identityref* rising-threshold-log *number*

Tree rising-threshold-log

Range 0 to 100

Default 90

Configurable True

Platforms Supported on all platforms

trust

Description	State information related to Platform Trust
Context	platform trust
Tree	trust
Configurable	False
Platforms	Supported on all platforms

secure-boot

Description	State information related to Secure Boot
Context	platform trust secure-boot
Tree	secure-boot
Configurable	False
Platforms	Supported on all platforms

control slot *string*

Description	Enter the control list instance
Context	platform trust secure-boot control slot *string*
Tree	control
Configurable	False
Platforms	Supported on all platforms

slot *string*

Description	Slot identifier for the control module
Context	platform trust secure-boot control slot *string*
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	Secure Boot operational state
Context	platform trust secure-boot control slot *string* oper-state *keyword*
Tree	oper-state

Options	• enabled Secure Boot is enabled • disabled Secure Boot is disabled
Configurable	False
Platforms	Supported on all platforms

uefi-variables variable *string*

Description	Content of the UEFI Secure Boot variables programmed in the control module
Context	platform trust secure-boot control slot *string* uefi-variables variable *string*
Tree	uefi-variables
Configurable	False
Platforms	Supported on all platforms

variable *string*

Description	UEFI Secure Boot database variable name
Context	platform trust secure-boot control slot *string* uefi-variables variable *string*
Configurable	False
Platforms	Supported on all platforms

contents

Description	Content Secure Boot database variable
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents
Tree	contents
Configurable	False
Platforms	Supported on all platforms

certificate index *number*

Description	List of X.509 certificates
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents certificate index *number*

Tree	certificate
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	The index of the certificate
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents certificate index *number*
Configurable	False
Platforms	Supported on all platforms

data *binary*

Description	DER encoded X.509 certificate
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents certificate index *number* data *binary*
Tree	data
Configurable	False
Platforms	Supported on all platforms

sha1-hash index *number*

Description	List of SHA-1 hash digests
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha1-hash index *number*
Tree	sha1-hash
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	The index of the hash
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha1-hash index *number*
Configurable	False
Platforms	Supported on all platforms

digest-value *binary*

Description	SHA-1 digest
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha1-hash index *number* digest-value *binary*
Tree	digest-value
Configurable	False
Platforms	Supported on all platforms

sha256-hash index *number*

Description	List of SHA-256 hash digests
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash index *number*
Tree	sha256-hash
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	The index of the hash
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash index *number*
Configurable	False
Platforms	Supported on all platforms

digest-value *binary*

Description	SHA-256 digest
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash index *number* digest-value *binary*
Tree	digest-value
Configurable	False
Platforms	Supported on all platforms

sha256-hash-cert index *number*

Description	List of SHA-256 hash digests of X.509 certificates
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash-cert index *number*
Tree	sha256-hash-cert
Configurable	False
Platforms	Supported on all platforms

index *number*

Description	The index of the hash
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash-cert index *number*
Configurable	False
Platforms	Supported on all platforms

digest-value *binary*

Description	SHA-256 digest of an X.509 certificate
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash-cert index *number* digest-value *binary*
Tree	digest-value
Configurable	False
Platforms	Supported on all platforms

revocation-time *string*

Description	Certificate revocation start time
Context	platform trust secure-boot control slot *string* uefi-variables variable *string* contents sha256-hash-cert index *number* revocation-time *string*
Tree	revocation-time
Configurable	False
Platforms	Supported on all platforms

uefi-variables-update

Description	Update status of the UEFI Secure Boot variables PK, KEK, DB and DBx programmed in the control module compared to the UEFI variables update in the modification dataset
Context	platform trust secure-boot control slot *string* uefi-variables-update
Tree	uefi-variables-update
Configurable	False
Platforms	Supported on all platforms

db-update-required *boolean*

Description	The authorized database (db) update status compared to the modification dataset true = the authorized database (db) is not up to date, update required false = the authorized database (db) is up to date
Context	platform trust secure-boot control slot *string* uefi-variables-update db-update-required *boolean*
Tree	db-update-required
Configurable	False
Platforms	Supported on all platforms

dbx-update-required *boolean*

Description	The forbidden database (dbx) update status compared to the modification dataset true = the forbidden database (dbx) is not up to date, update required false = the forbidden database (dbx) is up to date
Context	platform trust secure-boot control slot *string* uefi-variables-update dbx-update-required *boolean*
Tree	dbx-update-required
Configurable	False
Platforms	Supported on all platforms

kek-update-required *boolean*

Description	The Key Exchange Key database (KEK) update status compared to the modification dataset true = the Key Exchange Key database (KEK) is not up to date, update required false = the Key Exchange Key database (KEK) is up to date
Context	platform trust secure-boot control slot *string* uefi-variables-update kek-update-required *boolean*

Tree	kek-update-required
Configurable	False
Platforms	Supported on all platforms

modification-dataset-db-conflict *boolean*

Description	The authorized databse (db) conflict status between the modification dataset and the current running image true = conflict false = no conflict
Context	platform trust secure-boot control slot *string* uefi-variables-update modification-dataset-db-conflict *boolean*
Tree	modification-dataset-db-conflict
Configurable	False
Platforms	Supported on all platforms

modification-dataset-dbx-conflict *boolean*

Description	The forbidden databse (dbx) conflict status between the modification dataset and the current running image true = conflict false = no conflict
Context	platform trust secure-boot control slot *string* uefi-variables-update modification-dataset-dbx-conflict *boolean*
Tree	modification-dataset-dbx-conflict
Configurable	False
Platforms	Supported on all platforms

modification-dataset-digest *binary*

Description	The SHA256 digest of the modification dataset file
Context	platform trust secure-boot control slot *string* uefi-variables-update modification-dataset-digest *binary*
Tree	modification-dataset-digest
Configurable	False
Platforms	Supported on all platforms

modification-dataset-present *boolean*

Description	The modification dataset is present
Context	platform trust secure-boot control slot *string* uefi-variables-update modification-dataset-present *boolean*

Tree	modification-dataset-present
Configurable	False
Platforms	Supported on all platforms

modification-dataset-valid *boolean*

Description	The status of the modification dataset true = the modification dataset is valid false = the modification dataset is invalid
Context	platform trust secure-boot control slot *string* uefi-variables-update modification-dataset-valid *boolean*
Tree	modification-dataset-valid
Configurable	False
Platforms	Supported on all platforms

pk-update-required *boolean*

Description	The Platform Key (PK) update status compared to the modification dataset true = the Platform Key is not up to date, update required false = the Platform Key is up to date
Context	platform trust secure-boot control slot *string* uefi-variables-update pk-update-required *boolean*
Tree	pk-update-required
Configurable	False
Platforms	Supported on all platforms

up-to-date *boolean*

Description	Status of the Secure Boot variables programmed in the control module compared to the current modification dataset true = UEFI variables are up to date false = UEFI variable update required
Context	platform trust secure-boot control slot *string* uefi-variables-update up-to-date *boolean*
Tree	up-to-date
Configurable	False
Platforms	Supported on all platforms

tpm

Description	Enter the tpm context
Context	platform trust tpm
Tree	tpm
Configurable	False
Platforms	Supported on all platforms

control slot *string*

Description	List of TPMs on system control modules with their corresponding status, supported algorithms, PCR Indexes per PCR Bank and certificates
Context	platform trust tpm control slot *string*
Tree	control
Configurable	False
Platforms	Supported on all platforms

slot *string*

Description	Slot identifier for the control module. The slot identifier is the system wide unique name for the module's TPM
Context	platform trust tpm control slot *string*
Configurable	False
Platforms	Supported on all platforms

certificates name *string*

Description	List of TPM certificates Three main types of certificates can be accessed via this statement, including Endorsement Key Certificate (EK), Attestation Key Certificate (AK), Device ID key Certificate (DevID)
Context	platform trust tpm control slot *string* certificates name *string*
Tree	certificates
Configurable	False
Platforms	Supported on all platforms

name *string*

Description An arbitrary name uniquely identifying a certificate associated to a key within a TPM Endorsement Key Certificate (EK): endorsement-certificate Initial Device ID Certificate (IDevID): initial-device-id-certificate Initial Attestation Key Certificate (IAK): initial-attestation-certificate

Context platform trust tpm control slot *string* certificates name *string*

Configurable False

Platforms Supported on all platforms

data *binary*

Description DER encoded X.509 certificate

Context platform trust tpm control slot *string* certificates name *string* data *binary*

Tree data

Configurable False

Platforms Supported on all platforms

nv-index *number*

Description NV index for the certificate

Context platform trust tpm control slot *string* certificates name *string* nv-index *number*

Tree nv-index

Configurable False

Platforms Supported on all platforms

status *keyword*

Description TPM chip self-test status

Context platform trust tpm control slot *string* status *keyword*

Tree status

Options

- operational

  The TPM currently is running normally and is ready to accept and process TPM quotes

- non-operational

  TPM is in a state such as startup or shutdown which precludes the processing of TPM quotes

Configurable False

Platforms	Supported on all platforms

tpm20-pcr-bank tpm20-hash-algo *string*

Description	Specifies the list of PCRs that may be extracted for a specific Hash Algorithm. A TPM2.0 bank is a set of PCRs which are extended using a particular hash algorithm
Context	platform trust tpm control slot *string* tpm20-pcr-bank tpm20-hash-algo *string*
Tree	tpm20-pcr-bank
Configurable	False
Platforms	Supported on all platforms

tpm20-hash-algo *string*

Description	The hash algorithm that is used to hash TPM2.0 PCRs
Context	platform trust tpm control slot *string* tpm20-pcr-bank tpm20-hash-algo *string*
Configurable	False
Platforms	Supported on all platforms

pcr-index *number*

Description	List the TPM2.0 PCRs available to be extracted
Context	platform trust tpm control slot *string* tpm20-pcr-bank tpm20-hash-algo *string* pcr-index *number*
Tree	pcr-index
Range	0 to 31
Configurable	False
Platforms	Supported on all platforms

8 qos

```
qos
+  classifiers
   +  dot1p-policy name string
      +  dot1p value number
         +  forwarding-class (reference | keyword)
   +  dscp-policy name string
      +  dscp value number
         +  forwarding-class (reference | keyword)
   +  mpls-traffic-class-policy name string
      +  traffic-class value number
         +  forwarding-class (reference | keyword)
   +  multifield
      +  ipv4-policy name string
         +  entry sequence-id number
            +  action
               +  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
                  -  single-instance number
      +  ipv6-policy name string
         +  entry sequence-id number
            +  action
               +  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
             -  single-instance number
+  multifield-classifier name string
   +  entries
      +  entry sequence-id number
         +  action
            +  forwarding-class (keyword | reference)
            +  rewrite
               +  set-dscp number
         +  match
            +  ipv4
               +  destination-ip
                  +  address string
                  +  mask string
                  +  prefix string
               +  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
            +  ipv6
               +  destination-ip
                  +  address string
                  +  mask string
                  +  prefix string
               +  dscp-set (number | keyword)
               +  icmp6
                  +  code number
                  +  type (number | keyword)
               +  next-header (number | keyword)
```

```
                  +  source-ip
                     +  address string
                     +  mask string
                     +  prefix string
               +  transport
                  +  destination-port
                     +  operator keyword
                     +  range
                        +  end (number | keyword)
                        +  start (number | keyword)
                     +  value (number | keyword)
                  +  source-port
                     +  operator keyword
                     +  range
                        +  end (number | keyword)
                        +  start (number | keyword)
                     +  value (number | keyword)
                  +  tcp-flags string
            -  tcam-entries
               -  forwarding-complex complex-identifier string
               -  single-instance number
      +  type keyword
   +  vxlan-default reference
+  forwarding-classes
   +  forwarding-class name string
      +  forwarding-class-index number
      +  output
+  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
+  queues
   +  queue name string
+  rewrite-rules
   +  dot1p-policy name string
      +  map forwarding-class (reference | keyword)
   +  dscp-policy name string
      +  map forwarding-class (reference | keyword)
         +  dscp (number | keyword)
   +  mpls-traffic-class-policy name string
      +  map forwarding-class (reference | keyword)
         +  traffic-class number
   +  vxlan-outer-header-dscp-policy reference
+  scheduler-policies
   +  scheduler-policy name string
      +  scheduler sequence number
         +  input id string
            +  input-type keyword
            +  peak-rate-percent number
            +  queue-name (reference | keyword)
            +  weight number
         +  priority keyword
```

8.1 qos Descriptions

qos

Description	Top-level container for QoS data
Context	qos
Tree	qos
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

classifiers

Description	Enter the classifiers context
Context	qos classifiers
Tree	classifiers
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

dot1p-policy name *string*

Description	Enter the dot1p-policy list instance
Context	qos classifiers dot1p-policy name *string*
Tree	dot1p-policy
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

name *string*

Description	User-configured name for a 802.1p prioriy code point mapping policy The name 'default' is reserved for the system default dot1p mapping policy.
Context	qos classifiers dot1p-policy name *string*
String Length	1 to 255
Configurable	True

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

dot1p value *number*

Description	Enter the dot1p list instance
Context	qos classifiers dot1p-policy name *string* dot1p value *number*
Tree	dot1p
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

value *number*

Description	Enter the value context
Context	qos classifiers dot1p-policy name *string* dot1p value *number*
Range	0 to 7
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

forwarding-class *(reference | keyword)*

Description	The forwarding class
Context	qos classifiers dot1p-policy name *string* dot1p value *number* forwarding-class *(reference | keyword)*
Tree	forwarding-class
Options	• fc0 System default forwarding-class name for the FC with index 0 • fc1 System default forwarding-class name for the FC with index 1 • fc2 System default forwarding-class name for the FC with index 2 • fc3 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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

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

dscp-policy name *string*

Description Enter the dscp-policy list instance

Context qos classifiers dscp-policy name *string*

Tree dscp-policy

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

name *string*

Description	User-configured name for a DSCP mapping policy The name 'default' is reserved for the system default DSCP mapping policy.
Context	qos classifiers dscp-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

dscp value *number*

Description	Enter the dscp list instance
Context	qos classifiers dscp-policy name *string* dscp value *number*
Tree	dscp
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

value *number*

Description	Enter the value context
Context	qos classifiers dscp-policy name *string* dscp value *number*
Range	0 to 63
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

forwarding-class *(reference | keyword)*

Description	The forwarding class
Context	qos classifiers dscp-policy name *string* dscp value *number* forwarding-class *(reference | keyword)*
Tree	forwarding-class
Options	• fc0 System default forwarding-class name for the FC with index 0 • fc1 System default forwarding-class name for the FC with index 1 • fc2 System default forwarding-class name for the FC with index 2

- fc3
  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

mpls-traffic-class-policy name *string*

Description Enter the mpls-traffic-class-policy list instance

Context qos classifiers mpls-traffic-class-policy name *string*

Tree mpls-traffic-class-policy

Configurable True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	User-configured name for an MPLS traffic-class mapping policy The name 'default' is reserved for the system default MPLS TC mapping policy.
Context	qos classifiers mpls-traffic-class-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

traffic-class value *number*

Description	Enter the traffic-class list instance
Context	qos classifiers mpls-traffic-class-policy name *string* traffic-class value *number*
Tree	traffic-class
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

value *number*

Description	A single traffic-class value
Context	qos classifiers mpls-traffic-class-policy name *string* traffic-class value *number*
Range	0 to 7
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

forwarding-class *(reference | keyword)*

Description	The forwarding class
Context	qos classifiers mpls-traffic-class-policy name *string* traffic-class value *number* forwarding-class *(reference | keyword)*
Tree	forwarding-class
Options	• fc0

System default forwarding-class name for the FC with index 0

- fc1
  System default forwarding-class name for the FC with index 1
- fc2
  System default forwarding-class name for the FC with index 2
- fc3
  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

Reference	qos forwarding-classes forwarding-class name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multifield

Description	Container for multifield classification policies
Context	qos classifiers multifield
Tree	multifield
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4-policy name *string*

Description	List of IPv4 classifier policies
Context	qos classifiers multifield ipv4-policy name *string*
Tree	ipv4-policy
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Name of the IPv4 classifier policy.
Context	qos classifiers multifield ipv4-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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 0 to 65535

Configurable True

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

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

forwarding-class *(keyword | reference)*

Description The forwarding class to which the DSCP value is mapped

Context qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* action forwarding-class *(keyword | reference)*

Tree forwarding-class

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

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

rewrite

Description Rewrite actions associated with packets that match the classifier entry. Where a packet matches these criteria, the specified rewrite actions should be performed.

Context qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* action rewrite

Tree rewrite

Configurable True

Platforms Supported on all platforms except 7250

set-dscp *number*

Description	Sets the 6-bit DSCP (differentiated services code point) value in the IP packet header.
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* action rewrite set-dscp *number*
Tree	set-dscp
Range	0 to 63
Configurable	True
Platforms	Supported on all platforms except 7250

match

Description	Container for the conditions that determine whether a packet matches this entry
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match
Tree	match
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

destination-ip

Description	Packet matching criteria based on destination IPv4 address
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-ip
Tree	destination-ip
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description	Match a packet if its destination 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 destination-ip address *string*

Tree	address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description	Match a packet if its destination IP address is within the specified IPv4 prefix.
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-ip prefix *string*
Tree	prefix
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-port
Tree	destination-port
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

operator *keyword*

Description Comparison operator

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

Context qos classifiers multifield ipv4-policy name *string* 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

range

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

Context qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-port range

Tree range

Configurable True

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

end *(number | keyword)*

Description The ending port number to include in the range

Context qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-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)
- 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start *(number | keyword)*

Description The starting port number to include in the range

Context qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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

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)*

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
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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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  HP data alarm manager
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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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  Hypertext Transfer Protocol over TLS/SSL
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  IEEE Media Management System over SSL
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  Internet Printing Protocol
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  Internetwork Packet Exchange (IPX)
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  IRIS (Internet Registry Information Service) over BEEP
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  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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  Mac OS X Server administration
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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)
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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
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  Bidirectional Forwarding Detection Multi-Hop
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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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- nntp
  Network News Transfer Protocol (NNTP)
- nntps
  Network News Transfer Protocol over TLS/SSL (NNTPS)
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  OpenVPN
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  PIM Auto-RP
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  PKIX Time Stamp Protocol (TSP)
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  Post Office Protocol, version 3 (POP3)
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  Post Office Protocol 3 over TLS/SSL (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

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  Quote of the Day (QOTD)
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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
- 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
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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
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  Service Location Protocol (SLP)
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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

Configurable True

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

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 qos classifiers multifield ipv4-policy name *string* 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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 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*

Tree fragment

Configurable True

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

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 qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match icmp

Tree icmp

Configurable True

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

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 qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match icmp code *number*

Tree code

Configurable True

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

type *(number | keyword)*

Description Match a single ICMP type value.

Context qos classifiers multifield ipv4-policy name *string* 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
- 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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

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

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	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match source-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description	Match a packet if its source IP address is within the specified IPv4 prefix.
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match source-ip prefix *string*
Tree	prefix
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-port

Description	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.
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match source-port
Tree	source-port
Configurable	True

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

operator *keyword*

Description	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
Context	qos classifiers multifield ipv4-policy name *string* 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	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

range

Description	Container used to specify a contiguous range of TCP/UDP port numbers
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match source-port range
Tree	range
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end *(number | keyword)*

Description	The ending port number to include in the range
Context	qos classifiers multifield ipv4-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
  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)
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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)
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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 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
- 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
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  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

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start *(number | keyword)*

Description The starting port number to include in the range

Context qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

Range 0 to 65535

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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)*

Tree value

Range 0 to 65535

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

tcp-flags *string*

Description A logical expression using the &, | 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

forwarding-complex complex-identifier *string*

Description	List of forwarding complexes in the system
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
Tree	forwarding-complex
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

complex-identifier *string*

Description	A forwarding complex in the format (slot-number,complex-number).
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
Context	qos classifiers multifield ipv4-policy name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string* single-instance *number*
Tree	single-instance

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6-policy name *string*

Description	List of IPv6 classifier policies
Context	qos classifiers multifield ipv6-policy name *string*
Tree	ipv6-policy
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Name of the IPv6 classifier policy.
Context	qos classifiers multifield ipv6-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

entry sequence-id *number*

Description	List of classifier rules.
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 ipv6-policy name *string* entry sequence-id *number*
Range	0 to 65535

Configurable True

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

action

Description Container for the actions to be applied to packets matching the classifier entry.

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* action

Tree action

Configurable True

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

forwarding-class *(keyword | reference)*

Description The forwarding class to which the DSCP value is mapped

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* action forwarding-class *(keyword | reference)*

Tree forwarding-class

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

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

rewrite

Description Rewrite actions associated with packets that match the classifier entry. Where a packet matches these criteria, the specified rewrite actions should be performed.

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* action rewrite

Tree rewrite

Configurable True

Platforms Supported on all platforms except 7250

set-dscp *number*

Description Sets the 6-bit DSCP (differentiated services code point) value in the IP packet header.

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* action rewrite set-dscp *number*

Tree	set-dscp
Range	0 to 63
Configurable	True
Platforms	Supported on all platforms except 7250

match

Description	Container for the conditions that determine whether a packet matches this entry
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match
Tree	match
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

destination-ip

Description	Packet matching criteria based on destination IPv6 address
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match destination-ip
Tree	destination-ip
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address *string*

Description	Match a packet if its destination 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 destination-ip address *string*
Tree	address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match destination-ip mask *string*

Tree mask

Configurable True

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

prefix *string*

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

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match destination-ip prefix *string*

Tree prefix

Configurable True

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

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 qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match destination-port

Tree destination-port

Configurable True

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

operator *keyword*

Description Comparison operator

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

Context qos classifiers multifield ipv6-policy name *string* 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 destination-port range

Tree range

Configurable True

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

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

start *(number | keyword)*

Description The starting port number to include in the range

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match destination-port range start *(number | keyword)*

Tree start

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)
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  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
- 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)
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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

Configurable True

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

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)*

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
- 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
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- nas
  Netnews Administration System (NAS)
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- netbios-ns
  NetBIOS Name Service
- netbios-ss
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  RADIUS accounting protocol
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  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)
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- tcpnethaspsrv

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  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)
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  Xerox Network Systems (XNS) Mail
- xns-time

  Xerox Network Systems (XNS) Time Protocol
- z3950

  ANSI Z39.50

Configurable True

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

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 qos classifiers multifield ipv6-policy name *string* 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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

type *(number | keyword)*

Description Match a single ICMPv6 type value

Context qos classifiers multifield ipv6-policy 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

Configurable True

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

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 qos classifiers multifield ipv6-policy name *string* 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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

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	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match source-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description	Match a packet if its source IP address is within the specified IPv6 prefix.
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match source-ip prefix *string*
Tree	prefix
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-port

Description	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.
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match source-port
Tree	source-port
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

operator *keyword*

Description	Comparison operator eq = equal ge = greater than or equal to le = less than or equal to
Context	qos classifiers multifield ipv6-policy name *string* 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

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
  FileMaker Web Sharing (HTTP Alternate)
- http-mgmt
  http-mgmt
- http-rpc
  Remote procedure call over Hypertext Transfer Protocol
- https
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- ieee-mms-ssl
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- 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)
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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
- 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
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- mobile-ip
  Mobile IP Agent
- monitor
  Monitor
- mpp
  Message posting protocol (MPP)
- mssql-m
  Microsoft SQL Server database management system (MSSQL) monitor
- mssql-s
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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
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- ptp-general
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- qmtp
  Quick Mail Transfer Protocol
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  Quote of the Day (QOTD)
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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
- 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)
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- sql-svcs
  Structured Query Language (SQL) Services
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Secure Shell Protocol

- submission

  Email message submission (SMTP)

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- svcloc

  Service Location Protocol (SLP)

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  Syslog (UDP) and Remote Shell (TCP)

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  Active Users (systat service)

- tacacs

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

start *(number | keyword)*

Description The starting port number to include in the range

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match source-port range start *(number | keyword)*

Tree start

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
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  BFD Echo
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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

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- 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
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- remotecmd
  SupportSoft Nexus Remote Command
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  Routing Information Protocol
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- rlp
  Resource Location Protocol
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  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)

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  Real Time Streaming Protocol (RTSP)
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  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
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- sql

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  Syslog (UDP) and Remote Shell (TCP)
- systat

  Active Users (systat service)
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  TACACS Login Host protocol

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

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

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  CCSO Nameserver
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  Character Generator Protocol (CHARGEN)
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  Cisco Tag Distribution Protocol
- citadel

  Citadel

- clearcase
  ClearCase albd
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  Commerce Applications
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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
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  Resource Location Protocol
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  rmonitor, Remote Monitor
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Configurable True

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

tcp-flags *string*

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

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* match tcp-flags *string*

Tree tcp-flags

Configurable True

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

tcam-entries

Description Information about the TCAM entries used to implement the ACL entry

Context qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* tcam-entries

Tree tcam-entries

Configurable False

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

forwarding-complex complex-identifier *string*

Description List of forwarding complexes in the system

Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
Tree	forwarding-complex
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

complex-identifier *string*

Description	A forwarding complex in the format (slot-number,complex-number).
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
Context	qos classifiers multifield ipv6-policy name *string* entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string* single-instance *number*
Tree	single-instance
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

multifield-classifier name *string*

Description	List of multifield-classifier QoS policies
Context	qos classifiers multifield-classifier name *string*
Tree	multifield-classifier
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	The name of multifield-classifier QoS policy
Context	qos classifiers multifield-classifier name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

entries

Description	Container containing classifications terms for multifiled-classifier QoS policy
Context	qos classifiers multifield-classifier name *string* entries
Tree	entries
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

entry sequence-id *number*

Description	List of individual QoS multifield-classifier entries
Context	qos classifiers multifield-classifier name *string* entries entry sequence-id *number*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sequence-id *number*

Description	A number to indicate the relative evaluation order of the different terms; lower numbered terms are evaluated before higher numbered terms
Context	qos classifiers multifield-classifier name *string* entries entry sequence-id *number*
Range	0 to 65535
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

action

Description Container for the actions to be applied to packets matching the classifier entry.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* action

Tree action

Configurable True

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

forwarding-class *(keyword | reference)*

Description The forwarding class to which the DSCP value is mapped

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* action forwarding-class *(keyword | reference)*

Tree forwarding-class

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

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

rewrite

Description Rewrite actions associated with packets that match the classifier entry. Where a packet matches these criteria, the specified rewrite actions should be performed.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* action rewrite

Tree rewrite

Configurable True

Platforms Supported on all platforms except 7250

set-dscp *number*

Description Sets the 6-bit DSCP (differentiated services code point) value in the IP packet header.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* action rewrite set-dscp *number*

Tree set-dscp

Range 0 to 63

Configurable True

Platforms Supported on all platforms except 7250

match

Description Matching conditions for QoS multifield-classifier

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match

Tree match

Configurable True

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

ipv4

Description Container for the layer-3 IPv4 match criteria

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4

Tree ipv4

Configurable True

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

destination-ip

Description Packet matching criteria based on destination IPv4 address

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 destination-ip

Tree destination-ip

Configurable True

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

address *string*

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 destination-ip address *string*

Tree address

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 destination-ip mask *string*

Tree mask

Configurable True

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

prefix *string*

Description Match a packet if its destination IP address is within the specified IPv4 prefix.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 destination-ip prefix *string*

Tree prefix

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 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-classifier name *string* entries entry sequence-id *number* match ipv4 first-fragment *boolean*

Tree first-fragment

Configurable True

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

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 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-classifier name *string* entries entry sequence-id *number* match ipv4 fragment *boolean*

Tree fragment

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 icmp

Tree icmp

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 icmp code *number*

Tree code

Configurable True

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

type *(number | keyword)*

Description Match a single ICMP type value.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 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
- 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocol *(number | keyword)*

Description An IPv4 packet matches this condition if its IP protocol type field matches the specified value

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 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 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-ip

Description Packet matching criteria based on source IPv4 address

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 source-ip

Tree source-ip

Configurable True

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

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-classifier name *string* entries entry sequence-id *number* match ipv4 source-ip address *string*
Tree	address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 source-ip mask *string*
Tree	mask
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

prefix *string*

Description	Match a packet if its source IP address is within the specified IPv4 prefix.
Context	qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv4 source-ip prefix *string*
Tree	prefix
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv6

Description	Container for the layer-3 IPv6 match criteria
Context	qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6
Tree	ipv6
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

destination-ip

Description Packet matching criteria based on destination IPv6 address

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 destination-ip

Tree destination-ip

Configurable True

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

address *string*

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 destination-ip address *string*

Tree address

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 destination-ip mask *string*

Tree mask

Configurable True

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

prefix *string*

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 destination-ip prefix *string*

Tree prefix

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-classifier name *string* entries entry sequence-id *number* match ipv6 icmp6

Tree icmp6

Configurable True

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

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-classifier name *string* entries entry sequence-id *number* match ipv6 icmp6 code *number*

Tree code

Configurable True

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

type *(number | keyword)*

Description Match a single ICMPv6 type value

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 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

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-ip

Description Packet matching criteria based on source IPv6 address

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 source-ip

Tree source-ip

Configurable True

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

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-classifier name *string* entries entry sequence-id *number* match ipv6 source-ip address *string*

Tree address

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 source-ip mask *string*

Tree mask

Configurable True

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

prefix *string*

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match ipv6 source-ip prefix *string*

Tree prefix

Configurable True

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

transport

Description Container for the layer-4 transport match criteria

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport

Tree transport

Configurable True

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

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 qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport destination-port

Tree destination-port

Configurable True

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

operator *keyword*

Description Comparison operator

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport destination-port operator *keyword*

Tree operator

Options

- le

  Less than or equal.

- ge

  Greater than or equal.

- eq

Equal to.

Configurable True

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

range

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport destination-port range

Tree range

Configurable True

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

end *(number | keyword)*

Description The ending port number to include in the range

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport destination-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
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  Hypertext Transfer Protocol over TLS/SSL
- ieee-mms-ssl
  IEEE Media Management System over SSL
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  Internet Message Access Protocol (IMAP)
- imap3
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- imaps
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  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

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- matip-a
  Mapping of Airline Traffic over Internet Protocol (MATIP) type A
- 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)
- 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)
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- sql-svcs
  Structured Query Language (SQL) Services
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- ssh
  Secure Shell Protocol
- submission
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- sunrpc

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- svcloc
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- syslog
  Syslog (UDP) and Remote Shell (TCP)
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  Active Users (systat service)
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  TACACS Login Host protocol
- talk
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  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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start *(number | keyword)*

Description The starting port number to include in the range

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport destination-port range start *(number | keyword)*

Tree start

Range 0 to 65535

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  Authentication Service
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  Bidirectional Forwarding Detection Single Hop
- bfd-echo

  BFD Echo
- bftp

  Background File Transfer Program
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  Border Gateway Multicast Protocol
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  Bootstrap Protocol (BOOTP) Client and DHCP Client
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  Netnews

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value *(number | keyword)*

Description A destination port number

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport destination-port value *(number | keyword)*

Tree value

Range 0 to 65535

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  Citadel
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  Kerberos login
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  Kerberos Remote shell
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  BFD session over each LAG member link
- microsoft-ds
  Microsoft Directory Services
- mobile-ip
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  Monitor
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  Microsoft SQL Server database management system (MSSQL) monitor
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  Microsoft SQL Server database management system (MSSQL) server
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  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
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- openvpn
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- pim-auto-rp
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  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
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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
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- snmp-trap
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Structured Query Language (SQL) Services

- sql

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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

Configurable True

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

source-port

Description 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.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport source-port

Tree source-port

Configurable True

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

operator *keyword*

Description Comparison operator

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport source-port operator *keyword*

Tree operator

Options

- le

  Less than or equal.
- ge

  Greater than or equal.
- eq

  Equal to.

Configurable True

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

range

Description	Container used to specify a contiguous range of TCP/UDP port numbers
Context	qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport source-port range
Tree	range
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end *(number | keyword)*

Description	The ending port number to include in the range
Context	qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport 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
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- commerce
  Commerce Applications
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- daytime
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  Discard Protocol. Also Wake-on-LAN.
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  DNSIX security protocol auditing
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  FTPS (FTP over SSL/TLS) control
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  Group Domain Of Interpretation (GDOI) protocol
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  GTP control messages (GTP-C)
- gtp-prime
  GTP prime CDR logging protocol

- gtp-u
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  Hypertext Transfer Protocol
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  FileMaker Web Sharing (HTTP Alternate)
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  IEEE Media Management System over SSL
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  Internet Message Access Protocol over TLS/SSL
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  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
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  Kerberos login
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  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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  Lightweight Directory Access Protocol over TLS/SSL (LDAPS)
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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

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- matip-b
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  BFD session over each LAG member link
- microsoft-ds
  Microsoft Directory Services
- mobile-ip
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  Monitor
- mpp
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- 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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  MS Exchange Routing
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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
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  RLZ DBase
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rmonitor, Remote Monitor

- rpc2portmap

  Rpc2portmap
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  TACACS Login Host protocol
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  Talk
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  TCP Port Service Multiplexer (TCPMUX)
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  tcpnethaspsrv, Aladdin Knowledge Systems Hasp services
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- xns-mail
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- xns-time
  Xerox Network Systems (XNS) Time Protocol
- z3950
  ANSI Z39.50

Configurable True

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

start *(number | keyword)*

Description The starting port number to include in the range

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport source-port range start *(number | keyword)*

Tree start

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
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  Border Gateway Protocol
- bootpc

  Bootstrap Protocol (BOOTP) Client and DHCP Client
- bootps

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- ccso-ns
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- chargen
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- cisco-tdp
  Cisco Tag Distribution Protocol
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  Citadel
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- ieee-mms-ssl

  IEEE Media Management System over SSL
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value *(number | keyword)*

Description A source port number

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport source-port value *(number | keyword)*

Tree value

Range 0 to 65535

Options

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ASF Remote Management and Control Protocol & IPMI Remote Management Protocol

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

tcp-flags *string*

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

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* match transport tcp-flags *string*

Tree tcp-flags

Configurable True

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

tcam-entries

Description Information about the TCAM entries used to implement the ACL entry

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* tcam-entries

Tree tcam-entries

Configurable False

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

forwarding-complex complex-identifier *string*

Description List of forwarding complexes in the system

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*

Tree forwarding-complex

Configurable False

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

complex-identifier *string*

Description A forwarding complex in the format (slot-number,complex-number).

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string*

Configurable False

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

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.

Context qos classifiers multifield-classifier name *string* entries entry sequence-id *number* tcam-entries forwarding-complex complex-identifier *string* single-instance *number*

Tree single-instance

Configurable False

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

type *keyword*

Description Type of the QoS multifield-classifier

Context qos classifiers multifield-classifier name *string* type *keyword*

Tree type

Options

- ipv4

  Multifield-classifier using ipv4-based matching criteria

- ipv6

  Multifield-classifier using ipv6-based matching criteria

Configurable True

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

vxlan-default *reference*

Description	Reference to the name of a DSCP mapping policy that applies to terminating VXLAN packets.
Context	qos classifiers vxlan-default *reference*
Tree	vxlan-default
Reference	qos classifiers dscp-policy name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

forwarding-classes

Description	Enclosing container for list of user-defined forwarding class names
Context	qos forwarding-classes
Tree	forwarding-classes
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

forwarding-class name *string*

Description	Enter the forwarding-class list instance
Context	qos forwarding-classes forwarding-class name *string*
Tree	forwarding-class
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

name *string*

Description	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 fc7 In addition to fc0-fc7, the following forwarding-class names are also system-reserved default FC names on future systems fc8 fc9 fc10 fc11 fc12 fc13 fc14 fc15

Context	qos forwarding-classes forwarding-class name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

forwarding-class-index *number*

Description	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. For the system-reserved default forwarding classes: fc0 -> forwarding-class-index = 0 fc1 -> forwarding-class-index = 1 fc2 -> forwarding-class-index = 2 fc3 -> forwarding-class-index = 3 fc4 -> forwarding-class-index = 4 fc5 -> forwarding-class-index = 5 fc6 -> forwarding-class-index = 6 fc7 -> forwarding-class-index = 7 fc8 -> forwarding-class-index = 8 fc9 -> forwarding-class-index = 9 fc10 -> forwarding-class-index = 10 fc11 -> forwarding-class-index = 11 fc12 -> forwarding-class-index = 12 fc13 -> forwarding-class-index = 13 fc14 -> forwarding-class-index = 14 fc15 -> forwarding-class-index = 15
Context	qos forwarding-classes forwarding-class name *string* forwarding-class-index *number*
Tree	forwarding-class-index
Range	0 to 15
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

output

Description	Enter the output context
Context	qos forwarding-classes forwarding-class name *string* output
Tree	output
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

policer-templates

Description	Enter the policer-templates context
Context	qos policer-templates

Tree	policer-templates
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

policer-template name *string*

Description	List of policer templates.
Context	qos policer-templates policer-template name *string*
Tree	policer-template
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

name *string*

Description	The name assigned to the policer template.
Context	qos policer-templates policer-template name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

policer sequence-id *number*

Description	The list of policer instances belonging to the template definition.
Context	qos policer-templates policer-template name *string* policer sequence-id *number*
Tree	policer
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	32

sequence-id *number*

Description	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
Context	qos policer-templates policer-template name *string* policer sequence-id *number*
Range	1 to 65535
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

committed-burst-size *number*

Description	Maximum CIR bucket depth in bytes On 7220-D2/D3 the lower limit is 512 Bytes and higher limit is 268 MB
Context	qos policer-templates policer-template name *string* policer sequence-id *number* committed-burst-size *number*
Tree	committed-burst-size
Units	bytes
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

committed-rate-kbps *number*

Description	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
Context	qos policer-templates policer-template name *string* policer sequence-id *number* committed-rate-kbps *number*
Tree	committed-rate-kbps
Units	kbps
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

exceed-action

Description Container with options that specify the handling of packets that the policer has determined are exceeding (yellow)

Context qos policer-templates policer-template name *string* policer sequence-id *number* exceed-action

Tree exceed-action

Configurable True

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

drop-probability *keyword*

Description Recolor exceeding packets to the specified drop-probability level

Context qos policer-templates policer-template name *string* policer sequence-id *number* exceed-action drop-probability *keyword*

Tree drop-probability

Default medium

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.

Configurable True

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

forwarding-class fc *(reference | keyword)*

Description 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.

Context qos policer-templates policer-template name *string* policer sequence-id *number* forwarding-class fc *(reference | keyword)*

Tree forwarding-class

Configurable True

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

fc *(reference | keyword)*

Description A forwarding class that has traffic to match to the policer

Context qos policer-templates policer-template name *string* policer sequence-id *number* forwarding-class fc *(reference | keyword)*

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

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

forwarding-type *keyword*

Description The list of forwarding types, belonging to this forwarding-class, to match to the policer. If none are specified, this implies ALL forwarding types.

Context qos policer-templates policer-template name *string* policer sequence-id *number* forwarding-class fc *(reference | keyword)* forwarding-type *keyword*

Tree forwarding-type

Options

- unicast

  A packet is 'unicast' if the destination address is unicast and it matches an entry in the FIB

- 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

- 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

- broadcast

  A packet is 'broadcast' if the destination address is a broadcast address.

Configurable True

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

Max. Elements 5

maximum-burst-size *number*

Description Maximum PIR bucket depth in bytes

On 7220-D2/D3 the lower limit is 512 Bytes and higher limit is 268 MB

Context qos policer-templates policer-template name *string* policer sequence-id *number* maximum-burst-size *number*

Tree maximum-burst-size

Units bytes

Configurable True

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

peak-rate-kbps *number*

Description 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

Context qos policer-templates policer-template name *string* policer sequence-id *number* peak-rate-kbps *number*

Tree peak-rate-kbps

Units kbps

Configurable True

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

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

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

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.
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics-mode *keyword*

Description	The statistics mode of all policers belonging to this template
Context	qos policer-templates policer-template name *string* statistics-mode *keyword*
Tree	statistics-mode
Default	violating-focus
Options	• violating-focus In this statistics mode only 4 counters are provided: accepted-packets, accepted-octets, violating-packets, violating-octets • forwarding-focus In this statistics mode only 4 counters are provided: committed-packets, committed-octets, exceeding-packets, exceeding-octets
Configurable	True

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

preserve-dscp *boolean*

Description	When forwarding an untunneled IP packet or decapsulating an IP-in-IP packet, preserve the received DSCP and use it in the transmitted packet. This should not be enabled unless all IP packets have been classified by a multi-field classifier policy
Context	qos preserve-dscp *boolean*
Tree	preserve-dscp
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

queues

Description	Enclosing container for the list of user-defined queue names
Context	qos queues
Tree	queues
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

queue name *string*

Description	List of user-defined queues
Context	qos queues queue name *string*
Tree	queue
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

name *string*

Description	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 unicast-7

	The following queue names are the system-reserved default queue names on future systems: 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
Context	qos queues queue name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

rewrite-rules

Description	Enter the rewrite-rules context
Context	qos rewrite-rules
Tree	rewrite-rules
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

dot1p-policy name *string*

Description	Enter the dot1p-policy list instance
Context	qos rewrite-rules dot1p-policy name *string*
Tree	dot1p-policy
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

name *string*

Description	User-configured name for an 802.1p priorty code point rewrite policy.
Context	qos rewrite-rules dot1p-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

map forwarding-class *(reference | keyword)*

Description	Enter the map list instance

Context	qos rewrite-rules dot1p-policy name *string* map forwarding-class *(reference | keyword)*
Tree	map
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

forwarding-class *(reference | keyword)*

Description	The forwarding class
Context	qos rewrite-rules dot1p-policy name *string* map forwarding-class *(reference | keyword)*
Options	• fc0 System default forwarding-class name for the FC with index 0 • fc1 System default forwarding-class name for the FC with index 1 • fc2 System default forwarding-class name for the FC with index 2 • fc3 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

Reference	qos forwarding-classes forwarding-class name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dscp-policy name *string*

Description	Enter the dscp-policy list instance
Context	qos rewrite-rules dscp-policy name *string*
Tree	dscp-policy
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

name *string*

Description	User-configured name for a DSCP rewrite policy.
Context	qos rewrite-rules dscp-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

map forwarding-class *(reference | keyword)*

Description	Enter the map list instance
Context	qos rewrite-rules dscp-policy name *string* map forwarding-class *(reference | keyword)*
Tree	map
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

forwarding-class *(reference | keyword)*

Description The forwarding class

Context qos rewrite-rules dscp-policy name *string* map forwarding-class *(reference | keyword)*

Options

- fc0

  System default forwarding-class name for the FC with index 0
- fc1

  System default forwarding-class name for the FC with index 1
- fc2

  System default forwarding-class name for the FC with index 2
- fc3

  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

dscp *(number | keyword)*

Description The DSCP marking to be used for all packets associated with the FC, except those with a drop-probability-specific or profile-specific override.

Context qos rewrite-rules dscp-policy name *string* map forwarding-class *(reference | keyword)* dscp *(number | keyword)*

Tree dscp

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	Supported on all platforms except 7220 IXR-D1

mpls-traffic-class-policy name *string*

Description	Enter the mpls-traffic-class-policy list instance
Context	qos rewrite-rules mpls-traffic-class-policy name *string*
Tree	mpls-traffic-class-policy
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	User-configured name for an MPLS traffic-class rewrite policy.
Context	qos rewrite-rules mpls-traffic-class-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

map forwarding-class *(reference | keyword)*

Description	Enter the map list instance
Context	qos rewrite-rules mpls-traffic-class-policy name *string* map forwarding-class *(reference | keyword)*
Tree	map
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

forwarding-class *(reference | keyword)*

Description	The forwarding class
Context	qos rewrite-rules mpls-traffic-class-policy name *string* map forwarding-class *(reference | keyword)*
Options	• fc0 System default forwarding-class name for the FC with index 0 • fc1 System default forwarding-class name for the FC with index 1 • fc2

System default forwarding-class name for the FC with index 2

- fc3

  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

Reference qos forwarding-classes forwarding-class name *string*

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

traffic-class *number*

Description 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.

Context	qos rewrite-rules mpls-traffic-class-policy name *string* map forwarding-class *(reference | keyword)* traffic-class *number*
Tree	traffic-class
Range	0 to 7
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

vxlan-outer-header-dscp-policy *reference*

Description	Reference to the name of a DSCP rewrite policy that applies to the outer IP header of originating VXLAN packets.
Context	qos rewrite-rules vxlan-outer-header-dscp-policy *reference*
Tree	vxlan-outer-header-dscp-policy
Reference	qos rewrite-rules dscp-policy name *string*
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5

scheduler-policies

Description	Container for the list of configured scheduler policies.
Context	qos scheduler-policies
Tree	scheduler-policies
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

scheduler-policy name *string*

Description	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.
Context	qos scheduler-policies scheduler-policy name *string*
Tree	scheduler-policy
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Name for the scheduler policy.
Context	qos scheduler-policies scheduler-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

scheduler sequence *number*

Description	List of defined QoS traffic schedulers.
Context	qos scheduler-policies scheduler-policy name *string* scheduler sequence *number*
Tree	scheduler
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sequence *number*

Description	Sequence number for the scheduler within the scheduler policy. Schedulers are processed from lowest sequence to highest.
Context	qos scheduler-policies scheduler-policy name *string* scheduler sequence *number*
Range	0 to 1
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

input id *string*

Description	List of input sources for the scheduler.
Context	qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* input id *string*
Tree	input

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *string*

Description	User-defined identifier for the scheduler input
Context	qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* input id *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

input-type *keyword*

Description	Enter the input-type context
Context	qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* input id *string* input-type *keyword*
Tree	input-type
Default	queue
Options	• queue
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peak-rate-percent *number*

Description	The maximum percentage of port bandwidth that is available to the traffic in this queue during the PIR scheduling loop. The default is 100.
Context	qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* input id *string* peak-rate-percent *number*
Tree	peak-rate-percent
Range	1 to 100
Default	100
Configurable	True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

queue-name *(reference | keyword)*

Description The queue name

Context qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* input id *string* queue-name *(reference | keyword)*

Tree queue-name

Options

- unicast-0
- unicast-1
- unicast-2
- unicast-3
- unicast-4
- unicast-5
- unicast-6
- unicast-7
- multicast-0
- multicast-1
- multicast-2
- multicast-3
- multicast-4
- multicast-5
- multicast-6
- 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

Reference qos queues queue name *string*

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

weight *number*

Description For weighted round-robin schedulers, this leaf indicates the weight of the corresponding input.

Context qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* input id *string* weight *number*

Tree weight

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

priority *keyword*

Description Priority of the scheduler within the scheduler policy.

Context qos scheduler-policies scheduler-policy name *string* scheduler sequence *number* priority *keyword*

Tree priority

Options

- strict

  This scheduler term is considered as a strict priority term - such that packets that arrive in the queue are immediately serviced.

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

9 routing-policy

```
routing-policy
+  as-path-set name string
   +  expression string
+  community-set name string
   +  member (identityref | bgp-std-community-type | bgp-large-community-type | string | string
 | string | string | string | string | string | string | string | string | bgp-large-community-
regexp-type | bgp-std-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
      +  internal-tags
         +  tag-set reference
      +  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
         +  internal-tags
            +  tag-set reference
         +  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
         +  internal-tags
            +  tag-set reference
         +  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
+  tag-set name string
   -  tag-set-index number
```

9.1 routing-policy Descriptions

routing-policy

Description	Top-level container for all routing policy configuration
Context	routing-policy
Tree	routing-policy
Configurable	True
Platforms	Supported on all platforms

as-path-set name *string*

Description	AS Path regular expressions for use in policy entries
Context	routing-policy as-path-set name *string*
Tree	as-path-set
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	A name used to identify the AS path regular expression
Context	routing-policy as-path-set name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

expression *string*

Description	A regular expression where each AS number is an elemental term
Context	routing-policy as-path-set name *string* expression *string*
Tree	expression
String Length	1 to 65535
Configurable	True
Platforms	Supported on all platforms

community-set name *string*

Description	List of BGP community sets containing standard and large BGP communities
Context	routing-policy community-set name *string*
Tree	community-set
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	A name used to identify the community set
Context	routing-policy community-set name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

member *(identityref | bgp-std-community-type | bgp-large-community-type | string | string | string | string | string | string | string | string | string | bgp-large-community-regexp-type | bgp-std-community-regexp-type)*

Description	A standard BGP community value, regular expression or well-known name or else a large BGP community value or regular expression
Context	routing-policy community-set name *string* member *(identityref | bgp-std-community-type | bgp-large-community-type | string | string | string | string | string | string | string | string | string | bgp-large-community-regexp-type | bgp-std-community-regexp-type)*
Tree	member
Options	• 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 0xFFFFFF01. • no-advertise All NLRI received carrying this community must not be advertised to other BGP peers. This community has a value of 0xFFFFFF02. • 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 0xFFFFFF03.

Configurable	True
Platforms	Supported on all platforms
Min. Elements	1

policy name *string*

Description	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.
Context	routing-policy policy name *string*
Tree	policy
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	A name used to identify the policy
Context	routing-policy policy name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

default-action

Description	Actions for routes that do not match any policy entry
Context	routing-policy policy name *string* default-action
Tree	default-action
Configurable	True
Platforms	Supported on all platforms

bgp

Description	Enter the bgp context
Context	routing-policy policy name *string* default-action bgp
Tree	bgp
Configurable	True

Platforms	Supported on all platforms

as-path

Description	Modify AS Path attribute of routes
Context	routing-policy policy name *string* default-action bgp as-path
Tree	as-path
Configurable	True
Platforms	Supported on all platforms

prepend

Description	Prepend a BGP AS number to the AS Path attribute of routes
Context	routing-policy policy name *string* default-action bgp as-path prepend
Tree	prepend
Configurable	True
Platforms	Supported on all platforms

as-number *(number | keyword)*

Description	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.
Context	routing-policy policy name *string* default-action bgp as-path prepend as-number *(number | keyword)*
Tree	as-number
Range	1 to 4294967295
Options	• auto
Configurable	True
Platforms	Supported on all platforms

repeat-n *number*

Description	The number of repetitions of the prepended AS number
Context	routing-policy policy name *string* default-action bgp as-path prepend repeat-n *number*

Tree	repeat-n
Range	1 to 50
Configurable	True
Platforms	Supported on all platforms

remove *boolean*

Description	Clear the AS path to make it empty.
Context	routing-policy policy name *string* default-action bgp as-path remove *boolean*
Tree	remove
Configurable	True
Platforms	Supported on all platforms

replace *number*

Description	Clear the existing AS path and replace it a new AS_SEQUENCE containing the listed AS numbers.
Context	routing-policy policy name *string* default-action bgp as-path replace *number*
Tree	replace
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

communities

Description	Modify BGP communities attached to routes
Context	routing-policy policy name *string* default-action bgp communities
Tree	communities
Configurable	True
Platforms	Supported on all platforms

add *reference*

Description	Reference to a community-set name All of the non-regex community members in the referenced community-set are added to the COMMUNTIES and LARGE_COMMUNITIES attributes.

Context	routing-policy policy name *string* default-action bgp communities add *reference*
Tree	add
Reference	routing-policy community-set name *string*
Configurable	True
Platforms	Supported on all platforms

remove *reference*

Description	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.
Context	routing-policy policy name *string* default-action bgp communities remove *reference*
Tree	remove
Reference	routing-policy community-set name *string*
Configurable	True
Platforms	Supported on all platforms

replace *reference*

Description	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 COMMUNTIES and LARGE_COMMUNITIES attributes.
Context	routing-policy policy name *string* default-action bgp communities replace *reference*
Tree	replace
Reference	routing-policy community-set name *string*
Configurable	True
Platforms	Supported on all platforms

local-preference

Description	Enter the local-preference context
Context	routing-policy policy name *string* default-action bgp local-preference

Tree	local-preference
Configurable	True
Platforms	Supported on all platforms

set *number*

Description	The new value of LOCAL_PREF to write into the matching BGP routes
Context	routing-policy policy name *string* default-action bgp local-preference set *number*
Tree	set
Configurable	True
Platforms	Supported on all platforms

med

Description	Enter the med context
Context	routing-policy policy name *string* default-action bgp med
Tree	med
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

set *(number | keyword)*

Description	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.
Context	routing-policy policy name *string* default-action bgp med set *(number | keyword)*
Tree	set
Options	• route-table-cost
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

origin

Description Enter the origin context

Context routing-policy policy name *string* default-action bgp origin

Tree origin

Configurable True

Platforms Supported on all platforms

set *keyword*

Description The new value of the ORIGIN attribute to write into the matching BGP routes

Context routing-policy policy name *string* default-action bgp origin set *keyword*

Tree set

Options

- igp
- egp
- incomplete

Configurable True

Platforms Supported on all platforms

internal-tags

Description Configuration of internal tags

Context routing-policy policy name *string* default-action internal-tags

Tree internal-tags

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag-set *reference*

Description Reference to a tag-set defined under routing-policy

Context routing-policy policy name *string* default-action internal-tags tag-set *reference*

Tree tag-set

Reference routing-policy tag-set name *string*

Configurable True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	1

policy-result *keyword*

Description	Select the final disposition for the route.
Context	routing-policy policy name *string* default-action policy-result *keyword*
Tree	policy-result
Options	• accept Policy accepts the route • reject Policy rejects the route
Configurable	True
Platforms	Supported on all platforms

statement name *string*

Description	Policy statements group conditions and actions within a policy definition. They are evaluated in configuration order.
Context	routing-policy policy name *string* statement name *string*
Tree	statement
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name given to the policy statement (rule).
Context	routing-policy policy name *string* statement name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

action

Description	Actions for routes that match the policy statement

Context	routing-policy policy name *string* statement name *string* action
Tree	action
Configurable	True
Platforms	Supported on all platforms

bgp

Description	Enter the bgp context
Context	routing-policy policy name *string* statement name *string* action bgp
Tree	bgp
Configurable	True
Platforms	Supported on all platforms

as-path

Description	Modify AS Path attribute of routes
Context	routing-policy policy name *string* statement name *string* action bgp as-path
Tree	as-path
Configurable	True
Platforms	Supported on all platforms

prepend

Description	Prepend a BGP AS number to the AS Path attribute of routes
Context	routing-policy policy name *string* statement name *string* action bgp as-path prepend
Tree	prepend
Configurable	True
Platforms	Supported on all platforms

as-number *(number | keyword)*

Description	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.

Context	routing-policy policy name *string* statement name *string* action bgp as-path prepend as-number *(number | keyword)*
Tree	as-number
Range	1 to 4294967295
Options	• auto
Configurable	True
Platforms	Supported on all platforms

repeat-n *number*

Description	The number of repetitions of the prepended AS number
Context	routing-policy policy name *string* statement name *string* action bgp as-path prepend repeat-n *number*
Tree	repeat-n
Range	1 to 50
Configurable	True
Platforms	Supported on all platforms

remove *boolean*

Description	Clear the AS path to make it empty.
Context	routing-policy policy name *string* statement name *string* action bgp as-path remove *boolean*
Tree	remove
Configurable	True
Platforms	Supported on all platforms

replace *number*

Description	Clear the existing AS path and replace it a new AS_SEQUENCE containing the listed AS numbers.
Context	routing-policy policy name *string* statement name *string* action bgp as-path replace *number*
Tree	replace
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

communities

Description	Modify BGP communities attached to routes
Context	routing-policy policy name *string* statement name *string* action bgp communities
Tree	communities
Configurable	True
Platforms	Supported on all platforms

add *reference*

Description	Reference to a community-set name All of the non-regex community members in the referenced community-set are added to the COMMUNTIES and LARGE_COMMUNITIES attributes.
Context	routing-policy policy name *string* statement name *string* action bgp communities add *reference*
Tree	add
Reference	routing-policy community-set name *string*
Configurable	True
Platforms	Supported on all platforms

remove *reference*

Description	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.
Context	routing-policy policy name *string* statement name *string* action bgp communities remove *reference*
Tree	remove
Reference	routing-policy community-set name *string*
Configurable	True
Platforms	Supported on all platforms

replace *reference*

Description	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 COMMUNTIES and LARGE_COMMUNITIES attributes.
Context	routing-policy policy name *string* statement name *string* action bgp communities replace *reference*
Tree	replace
Reference	routing-policy community-set name *string*
Configurable	True
Platforms	Supported on all platforms

local-preference

Description	Enter the local-preference context
Context	routing-policy policy name *string* statement name *string* action bgp local-preference
Tree	local-preference
Configurable	True
Platforms	Supported on all platforms

set *number*

Description	The new value of LOCAL_PREF to write into the matching BGP routes
Context	routing-policy policy name *string* statement name *string* action bgp local-preference set *number*
Tree	set
Configurable	True
Platforms	Supported on all platforms

med

Description	Enter the med context
Context	routing-policy policy name *string* statement name *string* action bgp med
Tree	med
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

set *(number | keyword)*

Description 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.

Context routing-policy policy name *string* statement name *string* action bgp med set *(number | keyword)*

Tree set

Options
- route-table-cost

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

origin

Description Enter the origin context

Context routing-policy policy name *string* statement name *string* action bgp origin

Tree origin

Configurable True

Platforms Supported on all platforms

set *keyword*

Description The new value of the ORIGIN attribute to write into the matching BGP routes

Context routing-policy policy name *string* statement name *string* action bgp origin set *keyword*

Tree set

Options
- igp
- egp
- incomplete

Configurable True

Platforms Supported on all platforms

internal-tags

Description Configuration of internal tags

Context	routing-policy policy name *string* statement name *string* action internal-tags
Tree	internal-tags
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag-set *reference*

Description	Reference to a tag-set defined under routing-policy
Context	routing-policy policy name *string* statement name *string* action internal-tags tag-set *reference*
Tree	tag-set
Reference	routing-policy tag-set name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	1

policy-result *keyword*

Description	Select the final disposition for the route.
Context	routing-policy policy name *string* statement name *string* action policy-result *keyword*
Tree	policy-result
Options	• accept Policy accepts the route • reject Policy rejects the route
Configurable	True
Platforms	Supported on all platforms

match

Description	Match conditions of the policy statement
Context	routing-policy policy name *string* statement name *string* match

Tree	match
Configurable	True
Platforms	Supported on all platforms

bgp

Description	Configuration for BGP-specific policy match criteria
Context	routing-policy policy name *string* statement name *string* match bgp
Tree	bgp
Configurable	True
Platforms	Supported on all platforms

as-path-length

Description	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.
Context	routing-policy policy name *string* statement name *string* match bgp as-path-length
Tree	as-path-length
Configurable	True
Platforms	Supported on all platforms

operator *keyword*

Description	The comparison operator that applies to the value
Context	routing-policy policy name *string* statement name *string* match bgp as-path-length operator *keyword*
Tree	operator
Options	• eq • ge • le
Configurable	True
Platforms	Supported on all platforms

unique *boolean*

Description	Count a repeated sequence of the same AS number as just 1 element

Context	routing-policy policy name *string* statement name *string* match bgp as-path-length unique *boolean*
Tree	unique
Configurable	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

Description	Container for match conditions that are specific to BGP EVPN routes.
Context	routing-policy policy name *string* statement name *string* match bgp evpn
Tree	evpn
Configurable	True
Platforms	Supported on all platforms

route-type *number*

Description	An EVPN route meets this condition if the route-type field in the NLRI is one of the values provided in this list.
Context	routing-policy policy name *string* statement name *string* match bgp evpn route-type *number*
Tree	route-type
Range	1 to 5
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

family *identityref*

Description	The name of an address family A route meets this condition if the prefix belongs to one of the indicated address families.
Context	routing-policy policy name *string* statement name *string* match family *identityref*
Tree	family
Options	• ipv4-unicast Unlabeled IPv4 unicast routes (AFI = 1, SAFI = 1) • ipv6-unicast Unlabeled IPv6 unicast routes (AFI = 2, SAFI = 1) • l3vpn-ipv4-unicast VPN-IPv4 unicast address family (AFI = 1, SAFI = 128) • l3vpn-ipv6-unicast

VPN-IPv6 unicast address family (AFI = 2, SAFI = 128)

- ipv4-labeled-unicast

  Labeled IPv4 unicast routes (AFI 1, SAFI 4)

- ipv6-labeled-unicast

  Labeled IPv6 unicast routes (AFI 2, SAFI 4)

- evpn

  EVPN routes (AFI = 25, SAFI = 70)

Configurable True

Platforms Supported on all platforms

internal-tags

Description Configuration and state of internal tags

Context routing-policy policy name *string* statement name *string* match internal-tags

Tree internal-tags

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag-set *reference*

Description Reference to a tag-set defined under routing-policy

Context routing-policy policy name *string* statement name *string* match internal-tags tag-set *reference*

Tree tag-set

Reference routing-policy tag-set name *string*

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

Max. Elements 1

isis

Description Configuration for ISIS-specific policy match criteria

Context routing-policy policy name *string* statement name *string* match isis

Tree	isis
Configurable	True
Platforms	Supported on all platforms

level *number*

Description	IS-IS route level
Context	routing-policy policy name *string* statement name *string* match isis level *number*
Tree	level
Range	1 to 2
Configurable	True
Platforms	Supported on all platforms

route-type *keyword*

Description	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.
Context	routing-policy policy name *string* statement name *string* match isis route-type *keyword*
Tree	route-type
Options	• internal • external
Configurable	True
Platforms	Supported on all platforms

ospf

Description	Configuration for OSPF-specific policy match criteria
Context	routing-policy policy name *string* statement name *string* match ospf
Tree	ospf
Configurable	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
Context	routing-policy policy name *string* statement name *string* match prefix-set *reference*
Tree	prefix-set

Reference	routing-policy prefix-set name *string*
Configurable	True
Platforms	Supported on all platforms

protocol *identityref*

Description	The route type to match
Context	routing-policy policy name *string* statement name *string* match protocol *identityref*
Tree	protocol
Options	• aggregate Locally configured aggregate route • arp-nd IP route added by ARP ND. • bgp Border Gateway Protocol version 4 • bgp-label Border Gateway Protocol labeled routes • bgp-evpn BGP Ethernet VPN (EVPN) • bgp-vpn Border Gateway Protocol VPN routes • 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 True

Platforms Supported on all platforms

prefix-set name *string*

Description List of defined prefix sets

Context routing-policy prefix-set name *string*

Tree prefix-set

Configurable True

Platforms Supported on all platforms

name *string*

Description A name used to identify the prefix set

Context routing-policy prefix-set name *string*

String Length 1 to 255

Configurable True

Platforms Supported on all platforms

prefix ip-prefix *(ipv4-prefix | ipv6-prefix)* mask-length-range *string*

Description List of prefixes in the prefix set

Context routing-policy prefix-set name *string* prefix ip-prefix *(ipv4-prefix | ipv6-prefix)* mask-length-range *string*

Tree prefix

Configurable True

Platforms Supported on all platforms

ip-prefix *(ipv4-prefix | ipv6-prefix)*

Description	The IPv4 or IPv6 prefix in CIDR notation
Context	routing-policy prefix-set name *string* prefix ip-prefix *(ipv4-prefix | ipv6-prefix)* mask-length-range *string*
Configurable	True
Platforms	Supported on all platforms

mask-length-range *string*

Description	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
Context	routing-policy prefix-set name *string* prefix ip-prefix *(ipv4-prefix | ipv6-prefix)* mask-length-range *string*
Configurable	True
Platforms	Supported on all platforms

tag-set name *string*

Description	List of administrative tag sets
Context	routing-policy tag-set name *string*
Tree	tag-set
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	255

name *string*

Description	A name used to identify the tag set
Context	routing-policy tag-set name *string*
String Length	1 to 255
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tag-set-index *number*

Description	System-wide persistent unique identifier assigned to the tag-set
Context	routing-policy tag-set name *string* tag-set-index *number*
Tree	tag-set-index
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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
         +  role reference
         +  spiffe-ids string
         +  ssh-key string
         +  ssh-principals string
         -  username string
      +  authentication-method reference
      +  exit-on-reject boolean
      +  idle-timeout number
      +  linuxadmin-user
         +  password string
         +  ssh-key string
         +  ssh-principals 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
         +  hash-method keyword
         +  history number
         +  lockout-policy
            +  attempts number
            +  lockout number
            +  time number
         +  require-ntp-sync boolean
      -  session id number
         -  authentication-method string
         -  login-time string
         -  priv-lvl number
         -  remote-host string
         -  role 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
         +  spiffe-ids string
         +  ssh-key string
         +  ssh-principals 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
      +  services identityref
      +  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
      +  services identityref
      -  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
+  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
      +  source-address (ipv4-address | ipv6-address)
      +  subsystem subsystem-name keyword
         +  priority
            +  match-above keyword
            +  match-exact keyword
      +  transport keyword
   +  subsystem-facility keyword
   +  use-fqdn boolean
+  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
         -  statistics
            -  egress-mirrored-octets number
            -  egress-mirrored-packets number
            -  ingress-mirrored-octets number
            -  ingress-mirrored-packets number
      +  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
            -  owner identityref
      +  static name string
         -  allocated-labels number
         +  end-label number
         -  free-labels number
         +  shared boolean
         +  start-label number
         -  status keyword
         -  user index number
            -  owner 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)
               -  import-route-target-origin keyword
               -  import-rt (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-with-zone | ipv6-address-with-zone)
                     -  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-prempt boolean
                           -  oper-preference-value number
                           +  preference-value number
                        +  type keyword
                     +  interface-standby-signaling-on-non-df
                     +  timers
                        +  activation-timer number
                  +  esi string
                  -  esi-label number
                  -  ethernet-segment-routes
                     -  attr-id reference
                     -  esi string
                     -  neighbor (ipv4-address-with-zone | ipv6-address-with-zone)
                     -  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 | domain-name)
      +  iburst boolean
      -  jitter number
      -  offset number
      -  poll-interval number
      +  prefer boolean
      -  root-delay number
      -  root-dispersion number
      -  stratum number
   +  source-address (ipv4-address | ipv6-address)
   -  synchronized (ipv4-address | ipv6-address | domain-name | 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
+  protocols
   +  bgp
      +  restart-max-wait number
+  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)
   +  dscp number
   +  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
   +  host-key
      +  certificate string
      +  preserve boolean
   +  network-instance name reference
      +  admin-state keyword
      -  oper-state keyword
      -  protocol-version number
      +  rate-limit number
      +  source-address (ipv4-address | ipv6-address)
      +  timeout number
   +  revoked-keys string
   +  trust-anchors string
+  sync
   +  freq-clock
      -  active-reference keyword
      -  freq-clock-state keyword
      -  freq-offset decimal-number
      +  network-type keyword
      +  ql-input-threshold keyword
      +  ql-selection boolean
      +  revert boolean
      -  system-ql-value keyword
      +  wait-to-restore number
   +  freq-references
      +  instance instance-number number
         +  admin-state keyword
         -  not-qualified-reason keyword
         -  oper-state keyword
         +  priority number
         +  ql-override keyword
         -  ql-value keyword
         -  reference-status keyword
         +  source
            +  interface reference
   +  one-pps
      +  admin-state keyword
   +  ptp
      +  instance instance-index number
         -  current-ds
            -  mean-delay number
            -  offset-from-master number
            -  steps-removed number
         +  default-ds
            +  announce-receipt-timeout number
            -  clock-identity binary
            -  clock-quality
               -  clock-accuracy number
               -  clock-class number
               -  offset-scaled-log-variance number
            -  current-time
               -  time-nano-seconds number
```

```
            -  time-seconds number
         +  domain-number number
         +  instance-enable boolean
         +  instance-type keyword
         +  local-priority number
         +  log-announce-interval number
         -  number-ports number
         +  priority1 number
         +  priority2 number
         -  statistics
            -  anno-msg-rx number
            -  anno-msg-tx number
            -  del-req-msg-rx number
            -  del-req-msg-tx number
            -  del-resp-msg-rx number
            -  del-resp-msg-tx number
            -  delay-high-packet-loss number
            -  delay-packet-loss number
            -  discards
               -  alternate-master number
               -  bad-domain number
               -  other number
               -  out-of-sequence number
            -  follow-up-msg-rx number
            -  follow-up-msg-tx number
            -  multicast-msg-rate
               -  anno-msg-rate-rx decimal-number
               -  anno-msg-rate-tx decimal-number
               -  del-req-msg-rate-rx decimal-number
               -  del-req-msg-rate-tx decimal-number
               -  del-resp-msg-rate-rx decimal-number
               -  del-resp-msg-rate-tx decimal-number
               -  follow-up-msg-rate-rx decimal-number
               -  follow-up-msg-rate-tx decimal-number
               -  other-rate-rx decimal-number
               -  sync-msg-rate-rx decimal-number
               -  sync-msg-rate-tx decimal-number
            -  other-rx number
            -  sync-high-packet-loss number
            -  sync-msg-rx number
            -  sync-msg-tx number
            -  sync-packet-loss number
         -  time-recovery-engine
            -  algorithm-state keyword
            -  last-adjustment number
            -  last-adjustment-timestamp string
            -  state-last-changed string
            -  statistics
               -  delay-too-much-pdv number
               -  sync-too-much-pdv number
               -  time-in-acquiring number
               -  time-in-holdover number
               -  time-in-initial number
               -  time-in-locked number
         -  two-step-flag boolean
      -  parent-ds
         -  grandmaster-clock-quality
            -  clock-accuracy number
            -  clock-class number
            -  offset-scaled-log-variance number
         -  grandmaster-identity binary
         -  grandmaster-priority1 number
         -  grandmaster-priority2 number
         -  parent-port-identity
```

```
               -  clock-identity binary
               -  port-number number
            -  protocol-address
               -  mac-address string
               -  network-protocol identityref
         +  port-ds-list port-index number
            +  admin-state keyword
            -  announce-receipt-timeout number
            -  asym-correction number
            -  best-master boolean
            +  dest-mac keyword
            -  dynamic boolean
            +  local-priority number
            -  log-announce-interval number
            +  log-min-delay-req-interval number
            +  log-sync-interval number
            -  major-version-number number
            +  master-only boolean
            -  minor-version-number number
            -  neighbor-count number
            -  neighbor-list clock-identity binary port-number number
               -  mac-address string
               -  rx-message-rate decimal-number
            -  parent-clock boolean
            -  port-state keyword
            -  ptp-port-number number
            +  source
               +  interface reference
               +  peer
                  +  ip-address (ipv4-address | ipv6-address)
                  +  network-instance reference
            -  statistics
               -  anno-msg-rx number
               -  anno-msg-tx number
               -  del-req-msg-rx number
               -  del-req-msg-tx number
               -  del-resp-msg-rx number
               -  del-resp-msg-tx number
               -  discards
                  -  alternate-master number
                  -  bad-domain number
                  -  other number
                  -  out-of-sequence number
               -  follow-up-msg-rx number
               -  follow-up-msg-tx number
               -  other-rx number
               -  sync-msg-rx number
               -  sync-msg-tx number
         -  time-properties-ds
            -  current-utc-offset number
            -  current-utc-offset-valid boolean
            -  frequency-traceable boolean
            -  leap59 boolean
            -  leap61 boolean
            -  ptp-timescale boolean
            -  time-source keyword
            -  time-traceable boolean
      +  ptp-profile keyword
+  tls
   +  server-profile name string
      +  authenticate-client boolean
      +  certificate string
      +  certificate-revocation-list string
      +  cipher-list identityref
```

```
      -  dynamic boolean
      +  key string
      +  trust-anchor string
+  trace-options keyword
```

10.1 system Descriptions

system

Description Enclosing container for system management

Context system

Tree system

Configurable True

Platforms Supported on all platforms

aaa

Description Top-level container for AAA services

Context system aaa

Tree aaa

Configurable True

Platforms Supported on all platforms

accounting

Description Top-level container for accounting

Context system aaa accounting

Tree accounting

Configurable True

Platforms Supported on all platforms

accounting-method *reference*

Description 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.

Context system aaa accounting accounting-method *reference*

Tree accounting-method

Reference system aaa server-group name *string*

Configurable 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

Description	Top-level container for global authentication data
Context	system aaa authentication
Tree	authentication
Configurable	True
Platforms	Supported on all platforms

admin-user

Description	Enclosing container for admin user
Context	system aaa authentication admin-user
Tree	admin-user
Configurable	True
Platforms	Supported on all platforms

failed-login-attempts *number*

Description	Number of failed login attempts from the user
Context	system aaa authentication admin-user failed-login-attempts *number*
Tree	failed-login-attempts
Default	0
Configurable	False
Platforms	Supported on all platforms

last-failed-login *string*

Description	The date and time of the last login failure from this user
Context	system aaa authentication admin-user last-failed-login *string*
Tree	last-failed-login
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-successful-login *string*

Description	The date and time of the last successful login from this user

Context	system aaa authentication admin-user last-successful-login *string*
Tree	last-successful-login
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

lockout

Description	Information relating to the lockout state of this user
Context	system aaa authentication admin-user lockout
Tree	lockout
Configurable	False
Platforms	Supported on all platforms

active *boolean*

Description	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'
Context	system aaa authentication admin-user lockout active *boolean*
Tree	active
Configurable	False
Platforms	Supported on all platforms

end *string*

Description	Indicates the time at which the most recent lockout for this user ended or will end
Context	system aaa authentication admin-user lockout end *string*
Tree	end
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

start *string*

Description	Indicates the time at which the most recent lockout for this user started
Context	system aaa authentication admin-user lockout start *string*
Tree	start
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

password *string*

Description	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/Di8d IfU2fQ==' .
Context	system aaa authentication admin-user password *string*
Tree	password
Default	$ar2$aOvsuj0ALIU=$r750fMa3ZEA/Di8dIfU2fQ==
Configurable	True
Platforms	Supported on all platforms

password-change-required *boolean*

Description	Indicates if the user must change their password on next login
Context	system aaa authentication admin-user password-change-required *boolean*
Tree	password-change-required
Configurable	False
Platforms	Supported on all platforms

role *reference*

Description	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.
Context	system aaa authentication admin-user role *reference*
Tree	role

Reference	system aaa authorization role rolename *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	32

spiffe-ids *string*

Description	The SPIFFE ID list for the user, including the spiffe:// URI This list of IDs is evaluated by TLS-consuming servers (e.g. gNMI, JSON-RPC) that use a TLS server-profile with authenticate-client set to true. If a match is found in any incoming offered client certificates, the provider of the certificate is associated with this local user, and given resulting permissions.
Context	system aaa authentication admin-user spiffe-ids *string*
Tree	spiffe-ids
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ssh-key *string*

Description	SSH public key(s) for the user If defined, the user may login to the system over SSH with this key. This should use the SSH public authorized key format.
Context	system aaa authentication admin-user ssh-key *string*
Tree	ssh-key
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

ssh-principals *string*

Description	List of principals to associate with this user

If any of the principals in the list are matched in a SSH client's certificate, and that clients username matches this user, and the certificate is verified, the client will authenticate.

Context system aaa authentication admin-user ssh-principals *string*

Tree ssh-principals

Configurable True

Platforms Supported on all platforms

Max. Elements 32

username *string*

Description Assigned username for admin user

Context system aaa authentication admin-user username *string*

Tree username

Default admin

Configurable 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

Description	Enclosing container for linuxadmin user
Context	system aaa authentication linuxadmin-user
Tree	linuxadmin-user
Configurable	True
Platforms	Supported on all platforms

password *string*

Description	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 '$' characters, for example '6c66a15569d3f5952$kA2WPt9iqR5uMbaCUBNxsjKyXROQFd JtV1HX0CFY9wk7F326/yB3h.dERX9cH7YpeJ1N872hjzTb2tlaZFwwg0'.
Context	system aaa authentication linuxadmin-user password *string*
Tree	password
Default	6c66a15569d3f5952$kA2WPt9iqR5uMbaCUBNxsjKyXROQFd JtV1HX0CFY9wk7F326/yB3h.dERX9cH7YpeJ1N872hjzTb2tlaZFwwg0
Configurable	True

Platforms	Supported on all platforms

ssh-key *string*

Description	SSH public key(s) for the user If defined, the user may login to the system over SSH with this key. This should use the SSH public authorized key format.
Context	system aaa authentication linuxadmin-user ssh-key *string*
Tree	ssh-key
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

ssh-principals *string*

Description	List of principals to associate with this user If any of the principals in the list are matched in a SSH client's certificate, and that clients username matches this user, and the certificate is verified, the client will authenticate.
Context	system aaa authentication linuxadmin-user ssh-principals *string*
Tree	ssh-principals
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

username *string*

Description	Assigned username for linuxadmin user
Context	system aaa authentication linuxadmin-user username *string*
Tree	username
Default	linuxadmin
Configurable	False
Platforms	Supported on all platforms

password

Description	Top-level container for policies around user passwords

Context	system aaa authentication password
Tree	password
Configurable	True
Platforms	Supported on all platforms

aging *number*

Description	Expire user passwords after this period A value of 0 means that the user passwords do not expire
Context	system aaa authentication password aging *number*
Tree	aging
Range	0 to 500
Default	0
Units	days
Configurable	True
Platforms	Supported on all platforms

change-on-first-login *boolean*

Description	Enable or disable a user being forced to change their password on first time login
Context	system aaa authentication password change-on-first-login *boolean*
Tree	change-on-first-login
Default	false
Configurable	True
Platforms	Supported on all platforms

complexity-rules

Description	Top-level container for password complexity rules
Context	system aaa authentication password complexity-rules
Tree	complexity-rules
Configurable	True
Platforms	Supported on all platforms

allow-username *boolean*

Description	Enable or disable using username as part of the user password
Context	system aaa authentication password complexity-rules allow-username *boolean*
Tree	allow-username
Default	true
Configurable	True
Platforms	Supported on all platforms

maximum-length *number*

Description	The maximum length of the password for local users, including admin and linuxadmin
Context	system aaa authentication password complexity-rules maximum-length *number*
Tree	maximum-length
Range	1 to 1023
Default	1023
Configurable	True
Platforms	Supported on all platforms

minimum-length *number*

Description	The minimum length of the password for local users, including admin and linuxadmin
Context	system aaa authentication password complexity-rules minimum-length *number*
Tree	minimum-length
Range	1 to 12
Default	1
Configurable	True
Platforms	Supported on all platforms

minimum-lowercase *number*

Description	The minimum lowercase characters from (a-z) that the user password must include

A value of 0 results in no minimum-lowercase being enforced.

Context system aaa authentication password complexity-rules minimum-lowercase *number*

Tree minimum-lowercase

Range 0 to 10

Default 0

Configurable True

Platforms Supported on all platforms

minimum-numeric *number*

Description The minimum numeric digits that the user password must include

A value of 0 results in no minimum-numeric being enforced.

Context system aaa authentication password complexity-rules minimum-numeric *number*

Tree minimum-numeric

Range 0 to 10

Default 0

Configurable True

Platforms Supported on all platforms

minimum-special-character *number*

Description The minimum special characters that the user password must include

A value of 0 results in no minimum-special-character being enforced.

Context system aaa authentication password complexity-rules minimum-special-character *number*

Tree minimum-special-character

Range 0 to 10

Default 0

Configurable True

Platforms Supported on all platforms

minimum-uppercase *number*

Description The minimum uppercase characters from (A-Z) that the user password must include

A value of 0 results in no minimum-uppercase being enforced.

Context	system aaa authentication password complexity-rules minimum-uppercase *number*
Tree	minimum-uppercase
Range	0 to 10
Default	0
Configurable	True
Platforms	Supported on all platforms

hash-method *keyword*

Description	The hash type for the password entered as plain text
Context	system aaa authentication password hash-method *keyword*
Tree	hash-method
Default	ar2
Options	• ar2 The Argon2 password hassing algorithm • sha2 The SHA512 password hassing algorithm
Configurable	True
Platforms	Supported on all platforms

history *number*

Description	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
Context	system aaa authentication password history *number*
Tree	history
Range	0 to 20
Default	0
Configurable	True
Platforms	Supported on all platforms

lockout-policy

Description	Top-level container for lockout policy

Context	system aaa authentication password lockout-policy
Tree	lockout-policy
Configurable	True
Platforms	Supported on all platforms

attempts *number*

Description	The number of failed login attempts that will lock the account A value of 0 means unlimited number of failed login attempts is allowed
Context	system aaa authentication password lockout-policy attempts *number*
Tree	attempts
Range	0 to 64
Default	0
Configurable	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

require-ntp-sync *boolean*

Description	Enable or disable dependence of password aging and user lockout on NTP sync status
Context	system aaa authentication password require-ntp-sync *boolean*
Tree	require-ntp-sync
Default	true
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*

Description	System generated session ID
Context	system aaa authentication session id *number*
Configurable	False
Platforms	Supported on all platforms

authentication-method *string*

Description	Authentication method that authorized the user (the server-group name or local)
Context	system aaa authentication session id *number* authentication-method *string*
Tree	authentication-method

Configurable	False
Platforms	Supported on all platforms

login-time *string*

Description	Time the user logged in
Context	system aaa authentication session id *number* login-time *string*
Tree	login-time
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

priv-lvl *number*

Description	TACACS+ authorization priv-lvl (if TACACS+ authorization is enabled)
Context	system aaa authentication session id *number* priv-lvl *number*
Tree	priv-lvl
Configurable	False
Platforms	Supported on all platforms

remote-host *string*

Description	Remote host of the session
Context	system aaa authentication session id *number* remote-host *string*
Tree	remote-host
Configurable	False
Platforms	Supported on all platforms

role *string*

Description	List of roles assigned to this user
Context	system aaa authentication session id *number* role *string*
Tree	role
Configurable	False
Platforms	Supported on all platforms

service-name *string*

Description	Service name that called login for the session
Context	system aaa authentication session id *number* service-name *string*
Tree	service-name
Configurable	False
Platforms	Supported on all platforms

tty-name *string*

Description	Terminal type
Context	system aaa authentication session id *number* tty-name *string*
Tree	tty-name
Configurable	False
Platforms	Supported on all platforms

username *string*

Description	Username linked to the session
Context	system aaa authentication session id *number* username *string*
Tree	username
Configurable	False
Platforms	Supported on all platforms

user username *string*

Description	List of local users configured on the system
Context	system aaa authentication user username *string*
Tree	user
Configurable	True
Platforms	Supported on all platforms
Max. Elements	128

username *string*

Description	Assigned username for this user

Context	system aaa authentication user username *string*
String Length	1 to 32
Configurable	True
Platforms	Supported on all platforms

failed-login-attempts *number*

Description	Number of failed login attempts from the user
Context	system aaa authentication user username *string* failed-login-attempts *number*
Tree	failed-login-attempts
Default	0
Configurable	False
Platforms	Supported on all platforms

last-failed-login *string*

Description	The date and time of the last login failure from this user
Context	system aaa authentication user username *string* last-failed-login *string*
Tree	last-failed-login
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-successful-login *string*

Description	The date and time of the last successful login from this user
Context	system aaa authentication user username *string* last-successful-login *string*
Tree	last-successful-login
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

lockout

Description	Information relating to the lockout state of this user

Context	system aaa authentication user username *string* lockout
Tree	lockout
Configurable	False
Platforms	Supported on all platforms

active *boolean*

Description	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'
Context	system aaa authentication user username *string* lockout active *boolean*
Tree	active
Configurable	False
Platforms	Supported on all platforms

end *string*

Description	Indicates the time at which the most recent lockout for this user ended or will end
Context	system aaa authentication user username *string* lockout end *string*
Tree	end
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

start *string*

Description	Indicates the time at which the most recent lockout for this user started
Context	system aaa authentication user username *string* lockout start *string*
Tree	start
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

password *string*

Description	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$aOvsuj0ALlU=$r750fMa3ZEA/Di8d lfU2fQ==='.
Context	system aaa authentication user username *string* password *string*
Tree	password
Configurable	True
Platforms	Supported on all platforms

password-change-required *boolean*

Description	Indicates if the user must change their password on next login
Context	system aaa authentication user username *string* password-change-required *boolean*
Tree	password-change-required
Configurable	False
Platforms	Supported on all platforms

role *reference*

Description	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.
Context	system aaa authentication user username *string* role *reference*
Tree	role
Reference	system aaa authorization role rolename *string*
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

spiffe-ids *string*

Description	The SPIFFE ID list for the user, including the spiffe:// URI This list of IDs is evaluated by TLS-consuming servers (e.g. gNMI, JSON-RPC) that use a TLS server-profile with authenticate-client set to true.

If a match is found in any incoming offered client certificates, the provider of the certificate is associated with this local user, and given resulting permissions.

Context	system aaa authentication user username *string* spiffe-ids *string*
Tree	spiffe-ids
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ssh-key *string*

Description	SSH public key(s) for the user If defined, the user may login to the system over SSH with this key. This should use the SSH public authorized key format.
Context	system aaa authentication user username *string* ssh-key *string*
Tree	ssh-key
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

ssh-principals *string*

Description	List of principals to associate with this user If any of the principals in the list are matched in a SSH client's certificate, and that clients username matches this user, and the certificate is verified, the client will authenticate.
Context	system aaa authentication user username *string* ssh-principals *string*
Tree	ssh-principals
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

authorization

Description	Top-level container for authorization configuration and operational state data
Context	system aaa authorization
Tree	authorization

Configurable	True
Platforms	Supported on all platforms

role rolename *string*

Description	List of local roles configured on the system
Context	system aaa authorization role rolename *string*
Tree	role
Configurable	True
Platforms	Supported on all platforms

rolename *string*

Description	Assigned rolename for this role
Context	system aaa authorization role rolename *string*
String Length	1 to 32
Configurable	True
Platforms	Supported on all platforms

cli

Description	Top-level container for cli plugin configuration
Context	system aaa authorization role rolename *string* cli
Tree	cli
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allow-command-list *string*

Description	List of cli commands that 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.
Context	system aaa authorization role rolename *string* cli allow-command-list *string*

Tree	allow-command-list
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	100

deny-command-list *string*

Description	List of cli commands that 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.
Context	system aaa authorization role rolename *string* cli deny-command-list *string*
Tree	deny-command-list
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	100

load-global-plugins *boolean*

Description	Specifies whether cli should load plugins from global plugin directory (from /etc/opt/srlinux/cli/plugins/).
Context	system aaa authorization role rolename *string* cli load-global-plugins *boolean*
Tree	load-global-plugins
Default	true
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

load-user-plugins *boolean*

Description	Specifies whether cli should load plugins from user home directory (from ~/cli/plugins/).
Context	system aaa authorization role rolename *string* cli load-user-plugins *boolean*

Tree	load-user-plugins
Default	true
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

services *keyword*

Description	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.
Context	system aaa authorization role rolename *string* services *keyword*
Tree	services
Options	• cli • gnmi • gnoi • gnsi • gribi • netconf • p4rt • json-rpc • ftp • grpc-reflection
Configurable	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*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

priv-lvl-authorization *boolean*

Description	Use TACACS+ priv-lvl based authorization If false, then authorization is skipped for TACACS+ users granting full admin access for those users.
Context	system aaa server-group name *string* priv-lvl-authorization *boolean*
Tree	priv-lvl-authorization

Default	false
Configurable	True
Platforms	Supported on all platforms

server address *(ipv4-address | ipv6-address)*

Description	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
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)*
Tree	server
Configurable	True
Platforms	Supported on all platforms
Max. Elements	5

address *(ipv4-address | ipv6-address)*

Description	Address used to reach the server
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)*
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	User defined name assigned to the server
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* name *string*
Tree	name
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

network-instance *reference*

Description 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.

Context system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* network-instance *reference*

Tree network-instance

Reference network-instance name *string*

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description 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.

Context system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* 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.

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*

Description Port number for accounting requests

Context system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* radius acct-port *number*

Tree acct-port

Range 0 to 65535

Default 1813

Configurable True

Platforms Supported on all platforms

auth-port *number*

Description	Port number for authentication requests
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* radius auth-port *number*
Tree	auth-port
Range	0 to 65535
Default	1812
Configurable	True
Platforms	Supported on all platforms

retransmit-attempts *number*

Description	Number of times the system may send a request to the unresponsive server
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* radius retransmit-attempts *number*
Tree	retransmit-attempts
Default	3
Configurable	True
Platforms	Supported on all platforms

secret-key *string*

Description	The unencrypted shared key used between the system and server
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* radius secret-key *string*
Tree	secret-key
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enclosing container for server statistics
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics
Tree	statistics
Configurable	False

Platforms	Supported on all platforms

accounting-connection-failures *number*

Description	Number of accounting connection failures
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics accounting-connection-failures *number*
Tree	accounting-connection-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

accounting-rejects *number*

Description	Number of accounting rejections
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics accounting-rejects *number*
Tree	accounting-rejects
Default	0
Configurable	False
Platforms	Supported on all platforms

accounting-success *number*

Description	Number of accounting successes
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics accounting-success *number*
Tree	accounting-success
Default	0
Configurable	False
Platforms	Supported on all platforms

authorization-connection-failures *number*

Description	Number of authorization connection failures
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics authorization-connection-failures *number*

Tree	authorization-connection-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

authorization-rejects *number*

Description	Number of authorization rejections
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics authorization-rejects *number*
Tree	authorization-rejects
Default	0
Configurable	False
Platforms	Supported on all platforms

authorization-success *number*

Description	Number of authorization successes
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics authorization-success *number*
Tree	authorization-success
Default	0
Configurable	False
Platforms	Supported on all platforms

login-connection-failures *number*

Description	Number of login connection failures
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics login-connection-failures *number*
Tree	login-connection-failures
Default	0
Configurable	False
Platforms	Supported on all platforms

login-rejects *number*

Description	Number of login rejections
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics login-rejects *number*
Tree	login-rejects
Default	0
Configurable	False
Platforms	Supported on all platforms

login-success *number*

Description	Number of login successes
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* statistics login-success *number*
Tree	login-success
Default	0
Configurable	False
Platforms	Supported on all platforms

tacacs

Description	Top-level container for TACACS+ server data
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* tacacs
Tree	tacacs
Configurable	True
Platforms	Supported on all platforms

port *number*

Description	The port number on which to contact the TACACS+ server
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* tacacs port *number*
Tree	port
Range	0 to 65535
Default	49

Configurable	True
Platforms	Supported on all platforms

secret-key *string*

Description	The unencrypted shared key used between the system and server
Context	system aaa server-group name *string* server address *(ipv4-address | ipv6-address)* tacacs secret-key *string*
Tree	secret-key
Configurable	True
Platforms	Supported on all platforms

timeout *number*

Description	Set the timeout in seconds on responses from servers in this group
Context	system aaa server-group name *string* timeout *number*
Tree	timeout
Range	1 to 3600
Default	10
Units	seconds
Configurable	True
Platforms	Supported on all platforms

type *identityref*

Description	AAA server type -- all servers in the group must be of this type
Context	system aaa server-group name *string* type *identityref*
Tree	type
Options	• tacacs Specifies servers using the TACACS+ protocol Terminal Access Controller Access Control System (TACACS+) • radius Specifies servers using RADIUS protocol Remote Authentication Dial In User Service (RADIUS) AAA server • local Specifies using Linux local methods

This type cannot be combined with a server address

Configurable	True
Platforms	Supported on all platforms

app-management

Description	Top-level container for application configuration and state
Context	system app-management
Tree	app-management
Configurable	False
Platforms	Supported on all platforms

application name *string*

Description	List of all applications managed by the application manager
Context	system app-management application name *string*
Tree	application
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	Unique name of this application instance
Context	system app-management application name *string*
Configurable	False
Platforms	Supported on all platforms

author *string*

Description	The author of the application
Context	system app-management application name *string* author *string*
Tree	author
Configurable	False
Platforms	Supported on all platforms

cgroup *string*

Description	Cgroup in with this application is started
Context	system app-management application name *string* cgroup *string*
Tree	cgroup
Configurable	False
Platforms	Supported on all platforms

failure-action *string*

Description	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
Context	system app-management application name *string* failure-action *string*
Tree	failure-action
Configurable	False
Platforms	Supported on all platforms

failure-threshold *number*

Description	How many restarts within 'failure-window' are required to trigger the failure action Setting this value to 0 will result in no action taking place on application restarts
Context	system app-management application name *string* failure-threshold *number*
Tree	failure-threshold
Range	0 to 255
Configurable	False
Platforms	Supported on all platforms

failure-window *number*

Description	Sliding window in seconds, over which to count restarts towards failure-threshold
Context	system app-management application name *string* failure-window *number*
Tree	failure-window
Range	300 to 86400

Units	seconds
Configurable	False
Platforms	Supported on all platforms

last-change *string*

Description	Date and time the application instance last changed state
Context	system app-management application name *string* last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-start-type *keyword*

Description	Indicates the type of the most recent start or restart of this application instance
Context	system app-management application name *string* last-start-type *keyword*
Tree	last-start-type
Options	• 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. • 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.
Configurable	False
Platforms	Supported on all platforms

launch-command *string*

Description	The command used to launch the application
Context	system app-management application name *string* launch-command *string*

Tree	launch-command
Configurable	False
Platforms	Supported on all platforms

oom-score-adj *number*

Description	OOM score adj value set for this application
Context	system app-management application name *string* oom-score-adj *number*
Tree	oom-score-adj
Configurable	False
Platforms	Supported on all platforms

path *string*

Description	The directory where the application can be found
Context	system app-management application name *string* path *string*
Tree	path
Configurable	False
Platforms	Supported on all platforms

pid *number*

Description	Process ID of this application instance
Context	system app-management application name *string* pid *number*
Tree	pid
Configurable	False
Platforms	Supported on all platforms

restricted-operations *keyword*

Description	The operations that may not be manually performed on this application
Context	system app-management application name *string* restricted-operations *keyword*
Tree	restricted-operations
Options	• restart This application may not be restarted manually

- stop

  This application may not be stopped manually
- start

  This application may not be started manually
- reload

  This application may not be reloaded manually
- quit

  This application may not be terminated manually
- kill

  This application may not be terminated ungracefully manually

Configurable False

Platforms Supported on all platforms

search-command *string*

Description The command used to search for the applications liveness

Context system app-management application name *string* search-command *string*

Tree search-command

Configurable False

Platforms Supported on all platforms

state *keyword*

Description Current state of this application instance

Context system app-management application name *string* state *keyword*

Tree state

Options

- running

  Application instance is running

  This is the normal, active state of an application
- waiting-for-config

  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
- error

  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

- starting

  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.

- stopped

  The application is not running

  This state is most likely caused by an operator action

Configurable False

Platforms Supported on all platforms

statistics

Description Top-level container for application statistics

Context system app-management application name *string* statistics

Tree statistics

Configurable False

Platforms Supported on all platforms

restart-count *number*

Description The number of times this application instance has restarted

Context system app-management application name *string* statistics restart-count *number*

Tree restart-count

Default 0

Configurable False

Platforms Supported on all platforms

supported-restart-types *keyword*

Description Indicates the supported restart types for this application

Context system app-management application name *string* supported-restart-types *keyword*

Tree supported-restart-types

Options

- 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.

- 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.

Configurable False

Platforms Supported on all platforms

version *string*

Description The version of the application

Context system app-management application name *string* version *string*

Tree version

Configurable False

Platforms Supported on all platforms

yang

Description Top-level container for application state related to YANG

Context system app-management application name *string* yang

Tree yang

Configurable False

Platforms Supported on all platforms

modules *string*

Description YANG module names used by this application instance

Context system app-management application name *string* yang modules *string*

Tree modules

Configurable False

Platforms	Supported on all platforms

source-directories *string*

Description	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
Context	system app-management application name *string* yang source-directories *string*
Tree	source-directories
Configurable	False
Platforms	Supported on all platforms

authentication

Description	Container for protocol authentication options available system wide
Context	system authentication
Tree	authentication
Configurable	True
Platforms	Supported on all platforms

keychain name *string*

Description	List of system keychains
Context	system authentication keychain name *string*
Tree	keychain
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1024

name *string*

Description	The user configured name for the keychain
Context	system authentication keychain name *string*
String Length	1 to 255
Configurable	True

Platforms	Supported on all platforms

active-key-for-send *(keyword | reference)*

Description	Provides the key index of the currently active Keychain key
Context	system authentication keychain name *string* active-key-for-send *(keyword | reference)*
Tree	active-key-for-send
Options	• none No send key is usable
Reference	system authentication keychain name *string* key index *number*
Configurable	False
Platforms	Supported on all platforms

admin-state *keyword*

Description	When set to disable, the keychain is inactive 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. A keychain is operationally disabled in a particular direction (send/receive) if:
Context	system authentication keychain name *string* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

description *string*

Description	The user configured description for the keychain
Context	system authentication keychain name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True

Platforms	Supported on all platforms

expired *boolean*

Description	The value of this object indicates whether the keychain is expired Expired can mean past end-time or prior to start-time.
Context	system authentication keychain name *string* expired *boolean*
Tree	expired
Configurable	False
Platforms	Supported on all platforms

key index *number*

Description	List of keys in the keychain
Context	system authentication keychain name *string* key index *number*
Tree	key
Configurable	True
Platforms	Supported on all platforms

index *number*

Description	Each key in a keychain requires a unique identifier, the index value specifies this identifier
Context	system authentication keychain name *string* key index *number*
Configurable	True
Platforms	Supported on all platforms

algorithm *keyword*

Description	The cryptographic algorithm used with the keying material to secure the messages
Context	system authentication keychain name *string* key index *number* algorithm *keyword*
Tree	algorithm
Options	• cleartext The authentication-key is encoded in plaintext • md5

The authentication-key is used to generate an MD5 digest (RFC 1321)

- hmac-md5

  The authentication-key is used to generate a 16-byte (128 bit) MD5 digest using the HMAC algorithm (RFC 2104)

- hmac-sha-1

  The authentication-key is used to generate a SHA1 digest using the HMAC algorithm (RFC 2104)

- 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)

- aes-128-cmac

  The authentication-key is used with the AES-128 encryption algorithm to generate a cipher MAC (RFC 4493)

- aes-256-cmac

  The authentication-key is used with the AES-256 encryption algorithm to generate a cipher MAC (RFC 4493).

Configurable True

Platforms Supported on all platforms

authentication-key *string*

Description The secret key to use for authentication

Context system authentication keychain name *string* key index *number* authentication-key *string*

Tree authentication-key

Configurable True

Platforms Supported on all platforms

type *keyword*

Description Specifies the intended use of the keychain

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.

Context system authentication keychain name *string* type *keyword*

Tree type

Options

- tcp-md5

Keychain intended to be used for TCP-MD5 authentication

- isis

  Keychain intended to be used for authentication of IS-IS PDUs

- ospf

  Keychain intended to be used for authentication of OSPFv2 messages

- tcp-ao

  Keychain intended to be used for TCP-AO authentication

- vrrp

  Keychain intended to be used for authentication of VRRPv2 messages

- macsec

  Keychain intended to be used for key wrapping of SAK in a mka messages.

Configurable True

Platforms Supported on all platforms

usable *boolean*

Description The value of this object indicates if the keychain is usable for authentication

Context system authentication keychain name *string* usable *boolean*

Tree usable

Configurable False

Platforms Supported on all platforms

banner

Description Contains configuration and state related to system banners

Context system banner

Tree banner

Configurable True

Platforms Supported on all platforms

login-banner *string*

Description Banner to display before a user has authenticated

Context system banner login-banner *string*

Tree login-banner

Configurable	True
Platforms	Supported on all platforms

motd-banner *string*

Description	Banner to display after a user has authenticated
Context	system banner motd-banner *string*
Tree	motd-banner
Configurable	True
Platforms	Supported on all platforms

boot

Description	Top-level container for configuration and state data related to booting the system
Context	system boot
Tree	boot
Configurable	True
Platforms	Supported on all platforms

autoboot

Description	Top-level container for configuration and state data related to autobooting the system
Context	system boot autoboot
Tree	autoboot
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable autoboot functionality
Context	system boot autoboot admin-state *keyword*
Tree	admin-state
Options	• enable • disable

Configurable	True
Platforms	Supported on all platforms

attempts *number*

Description	Sets the amount of executions to try autoboot, before rebooting the system
Context	system boot autoboot attempts *number*
Tree	attempts
Range	1 to 10
Configurable	True
Platforms	Supported on all platforms

client-id *keyword*

Description	The client ID to use on outgoing DHCP requests
Context	system boot autoboot client-id *keyword*
Tree	client-id
Options	• serial Use the chassis serial number as the client ID
Configurable	True
Platforms	Supported on all platforms

interface *reference*

Description	Sets the interface to use for autoboot functionality
Context	system boot autoboot interface *reference*
Tree	interface
Default	mgmt0
Reference	interface name *string*
Configurable	True
Platforms	Supported on all platforms

mode *string*

Description	Ztp operation modes. One or more modes can passed

Context	system boot autoboot mode *string*
Tree	mode
Configurable	True
Platforms	Supported on all platforms

oper-state *string*

Description	The current operational status of the autoboot process
Context	system boot autoboot oper-state *string*
Tree	oper-state
Configurable	False
Platforms	Supported on all platforms

timeout *number*

Description	Sets the timeout for each attempt to autoboot
Context	system boot autoboot timeout *number*
Tree	timeout
Range	200 to 3600
Units	seconds
Configurable	True
Platforms	Supported on all platforms

golden-image *string*

Description	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>
Context	system boot golden-image *string*
Tree	golden-image
String Length	1 to 255
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

image *string*

Description	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>
Context	system boot image *string*
Tree	image
String Length	1 to 255
Configurable	False
Platforms	Supported on all platforms
Max. Elements	3

bridge-table

Description	system bridge-table information
Context	system bridge-table
Tree	bridge-table
Configurable	True
Platforms	Supported on all platforms

mac-learning

Description	Enter the mac-learning context
Context	system bridge-table mac-learning
Tree	mac-learning
Configurable	True
Platforms	Supported on all platforms

mac-relearn-only *boolean*

Description	The value of this leaf indicates that the system will not learn any new mac addresses, but will relearn any that are already programmed
Context	system bridge-table mac-learning mac-relearn-only *boolean*
Tree	mac-relearn-only

Configurable	False
Platforms	Supported on all platforms

mac-limit

Description	Bridge Table size and thresholds.
Context	system bridge-table mac-limit
Tree	mac-limit
Configurable	True
Platforms	Supported on all platforms

maximum-entries *number*

Description	Maximum number of mac addresses allowed in the system bridge-table.
Context	system bridge-table mac-limit maximum-entries *number*
Tree	maximum-entries
Configurable	False
Platforms	Supported on all platforms

warning-threshold-pct *number*

Description	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%
Context	system bridge-table mac-limit warning-threshold-pct *number*
Tree	warning-threshold-pct
Configurable	False
Platforms	Supported on all platforms

proxy-arp

Description	system bridge-table proxy ARP entry information
Context	system bridge-table proxy-arp
Tree	proxy-arp
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	system bridge-table proxy-arp statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-entries *number*

Description	The total number of active proxy entries.
Context	system bridge-table proxy-arp statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

in-active-entries *number*

Description	The total number of inactive proxy entries.
Context	system bridge-table proxy-arp statistics in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

neighbor-origin origin *keyword*

Description	the origin of the proxy entry installed in the table.
Context	system bridge-table proxy-arp statistics neighbor-origin origin *keyword*
Tree	neighbor-origin
Configurable	False
Platforms	Supported on all platforms

origin *keyword*

Description	Enter the origin context
Context	system bridge-table proxy-arp statistics neighbor-origin origin *keyword*
Options	• static • dynamic • evpn • duplicate
Configurable	False
Platforms	Supported on all platforms

active-entries *number*

Description	The total number of active proxy entries.
Context	system bridge-table proxy-arp statistics neighbor-origin origin *keyword* active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

in-active-entries *number*

Description	The total number of inactive proxy entries.
Context	system bridge-table proxy-arp statistics neighbor-origin origin *keyword* in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

pending-entries *number*

Description	The total number of pending proxy entries.
Context	system bridge-table proxy-arp statistics neighbor-origin origin *keyword* pending-entries *number*
Tree	pending-entries

Default	0
Configurable	False
Platforms	Supported on all platforms

total-entries *number*

Description	The total number of proxy entries.
Context	system bridge-table proxy-arp statistics neighbor-origin origin *keyword* total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

pending-entries *number*

Description	The total number of pending proxy entries.
Context	system bridge-table proxy-arp statistics pending-entries *number*
Tree	pending-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

total-entries *number*

Description	The total number of proxy entries.
Context	system bridge-table proxy-arp statistics total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

proxy-nd

Description	system bridge-table proxy ND entry information
Context	system bridge-table proxy-nd

Tree	proxy-nd
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	system bridge-table proxy-nd statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-entries *number*

Description	The total number of active proxy entries.
Context	system bridge-table proxy-nd statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

in-active-entries *number*

Description	The total number of inactive proxy entries.
Context	system bridge-table proxy-nd statistics in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

neighbor-origin origin *keyword*

Description	the origin of the proxy entry installed in the table.
Context	system bridge-table proxy-nd statistics neighbor-origin origin *keyword*
Tree	neighbor-origin
Configurable	False

Platforms	Supported on all platforms

origin *keyword*

Description	Enter the origin context
Context	system bridge-table proxy-nd statistics neighbor-origin origin *keyword*
Options	• static • dynamic • evpn • duplicate
Configurable	False
Platforms	Supported on all platforms

active-entries *number*

Description	The total number of active proxy entries.
Context	system bridge-table proxy-nd statistics neighbor-origin origin *keyword* active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

in-active-entries *number*

Description	The total number of inactive proxy entries.
Context	system bridge-table proxy-nd statistics neighbor-origin origin *keyword* in-active-entries *number*
Tree	in-active-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

pending-entries *number*

Description	The total number of pending proxy entries.

Context	system bridge-table proxy-nd statistics neighbor-origin origin *keyword* pending-entries *number*
Tree	pending-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

total-entries *number*

Description	The total number of proxy entries.
Context	system bridge-table proxy-nd statistics neighbor-origin origin *keyword* total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

pending-entries *number*

Description	The total number of pending proxy entries.
Context	system bridge-table proxy-nd statistics pending-entries *number*
Tree	pending-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

total-entries *number*

Description	The total number of proxy entries.
Context	system bridge-table proxy-nd statistics total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	system bridge-table statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

active-entries *number*

Description	The total number of macs that are active on the system.
Context	system bridge-table statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	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*

Description The total number of macs of this type on the system.

Context system bridge-table statistics mac-type type *keyword* active-entries *number*

Tree active-entries

Default 0

Configurable False

Platforms Supported on all platforms

failed-entries *number*

Description The total number of macs of this type, which have not been programmed on atleast one slot

Context system bridge-table statistics mac-type type *keyword* failed-entries *number*

Tree failed-entries

Default 0

Configurable False

Platforms Supported on all platforms

total-entries *number*

Description	The total number of macs of this type , active and inactive, on the system.
Context	system bridge-table statistics mac-type type *keyword* total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

total-entries *number*

Description	The total number of macs, active and inactive, on the system.
Context	system bridge-table statistics total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	Supported on all platforms

clock

Description	Top-level container for system clock configuration and state
Context	system clock
Tree	clock
Configurable	True
Platforms	Supported on all platforms

timezone *keyword*

Description	The timezone to use for the system Based on IANAs Time Zone database
Context	system clock timezone *keyword*
Tree	timezone
Options	• Africa/Abidjan • Africa/Accra • Africa/Addis_Ababa • Africa/Algiers • Africa/Asmara

- Africa/Bamako
- Africa/Bangui
- Africa/Banjul
- Africa/Bissau
- Africa/Blantyre
- Africa/Brazzaville
- Africa/Bujumbura
- Africa/Cairo
- Africa/Casablanca
- Africa/Ceuta

  Ceuta, Melilla
- Africa/Conakry
- Africa/Dakar
- Africa/Dar_es_Salaam
- Africa/Djibouti
- Africa/Douala
- Africa/El_Aaiun
- Africa/Freetown
- 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)
- 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
  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
- 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-Olgiy, Govi-Altai, Hovd, Uvs, Zavkhan
- Asia/Irkutsk

  MSK+05 - Irkutsk, Buryatia
- Asia/Jakarta

  Java, Sumatra
- Asia/Jayapura

  New Guinea (West Papua / Irian Jaya); Malukus/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 Tengarra; 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/Samarkand
  Uzbekistan (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
- 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
- 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
  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/Fakaofo
- 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

Configurable True

Platforms Supported on all platforms

configuration

Description Top-level container for configuration and state data related to the system configuration

Context system configuration

Tree configuration

Configurable True

Platforms Supported on all platforms

auto-checkpoint *boolean*

Description Configuration checkpoint will be automatically created after every successful commit (if set to true).

Context system configuration auto-checkpoint *boolean*

Tree auto-checkpoint

Default	false
Configurable	True
Platforms	Supported on all platforms

candidate name *string*

Description	List of configuration candidates currently active
Context	system configuration candidate name *string*
Tree	candidate
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	Name of the configuration candidate
Context	system configuration candidate name *string*
String Length	1 to 255
Configurable	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

Configurable False

Platforms Supported on all platforms

id *number*

Description System generated ID for the checkpoint

Context system configuration checkpoint id *number*

Configurable False

Platforms Supported on all platforms

comment *string*

Description User provided annotations associated with the checkpoint

Context system configuration checkpoint id *number* comment *string*

Tree comment

Configurable False

Platforms Supported on all platforms

created *string*

Description	Date and time this checkpoint was created
Context	system configuration checkpoint id *number* created *string*
Tree	created
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	User provided name of the checkpoint
Context	system configuration checkpoint id *number* name *string*
Tree	name
Configurable	False
Platforms	Supported on all platforms

size *number*

Description	Size of the checkpoint configuration file
Context	system configuration checkpoint id *number* size *number*
Tree	size
Units	bytes
Configurable	False
Platforms	Supported on all platforms

tag *string*

Description	Full system version that the checkpoint was generated on
Context	system configuration checkpoint id *number* tag *string*
Tree	tag
Configurable	False
Platforms	Supported on all platforms

username *string*

Description	Username that created this checkpoint
Context	system configuration checkpoint id *number* username *string*
Tree	username
String Length	1 to 255
Configurable	False
Platforms	Supported on all platforms

version *string*

Description	System version that the checkpoint was generated on
Context	system configuration checkpoint id *number* version *string*
Tree	version
Configurable	False
Platforms	Supported on all platforms

commit id *number*

Description	List of configuration transactions
Context	system configuration commit id *number*
Tree	commit
Configurable	False
Platforms	Supported on all platforms

id *number*

Description	System identifier for the commit
Context	system configuration commit id *number*
Configurable	False
Platforms	Supported on all platforms

comment *string*

Description	Operator provided comment associated with this commit
Context	system configuration commit id *number* comment *string*
Tree	comment

Configurable	False
Platforms	Supported on all platforms

ended *string*

Description	End date and time of the commit This field is not populated if the commit is in progress
Context	system configuration commit id *number* ended *string*
Tree	ended
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

name *string*

Description	Name of the configuration candidate the commit was triggered from
Context	system configuration commit id *number* name *string*
Tree	name
String Length	1 to 255
Configurable	False
Platforms	Supported on all platforms

started *string*

Description	Start date and time of the commit
Context	system configuration commit id *number* started *string*
Tree	started
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

status *keyword*

Description	Current status of the commit
Context	system configuration commit id *number* status *keyword*
Tree	status

Options
- validating
- publishing
- unconfirmed
- checkpoint
- save
- complete
- reverting
- failed

Configurable False

Platforms Supported on all platforms

type *keyword*

Description Type of configuration candidate the commit was triggered from

Context system configuration commit id *number* type *keyword*

Tree type

Options
- shared
- private

Configurable False

Platforms Supported on all platforms

username *string*

Description User that started the commit

Context system configuration commit id *number* username *string*

Tree username

String Length 1 to 255

Configurable False

Platforms Supported on all platforms

idle-timeout *number*

Description The idle timeout of configuration candidates

After this period of no activity, the candidate is emptied and removed from the system.

Context system configuration idle-timeout *number*

Tree	idle-timeout
Default	10080
Units	minutes
Configurable	True
Platforms	Supported on all platforms

last-change *string*

Description	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.
Context	system configuration last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

max-candidates *number*

Description	The maximum number of combined private and shared candidates
Context	system configuration max-candidates *number*
Tree	max-candidates
Range	1 to 255
Default	10
Configurable	True
Platforms	Supported on all platforms

max-checkpoints *number*

Description	The number of checkpoints kept by the system
Context	system configuration max-checkpoints *number*
Tree	max-checkpoints
Range	1 to 255
Default	10
Configurable	True
Platforms	Supported on all platforms

role name *reference*

Description	List of roles configured in the system
Context	system configuration role name *reference*
Tree	role
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

name *reference*

Description	Enter the name context
Context	system configuration role name *reference*
Reference	system aaa authorization role rolename *string*
Configurable	True
Platforms	Supported on all platforms

rule path-reference *string*

Description	List of paths to perform access control against
Context	system configuration role name *reference* rule path-reference *string*
Tree	rule
Configurable	True
Platforms	Supported on all platforms
Max. Elements	256

path-reference *string*

Description	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"
Context	system configuration role name *reference* rule path-reference *string*
Configurable	True
Platforms	Supported on all platforms

action *keyword*

Description Action to allow for this path

Context system configuration role name *reference* rule path-reference *string* action *keyword*

Tree action

Options

- read

  This path may be read by the role
- write

  This path may be written and read by the role
- deny

  This path may not be read or written to by the role

Configurable True

Platforms Supported on all platforms

session id *number*

Description List of configuration sessions currently active

Context system configuration session id *number*

Tree session

Configurable False

Platforms Supported on all platforms

id *number*

Description System generated ID for the configuration session

Context system configuration session id *number*

Configurable False

Platforms Supported on all platforms

exclusive *boolean*

Description Details if this session is running in exclusive mode

Context system configuration session id *number* exclusive *boolean*

Tree exclusive

Configurable False

Platforms	Supported on all platforms

name *string*

Description	Name of the candidate the session is active on Set to 'default' if a non-named candidate is active
Context	system configuration session id *number* name *string*
Tree	name
String Length	1 to 255
Configurable	False
Platforms	Supported on all platforms

started *string*

Description	Start date and time of the configuration session
Context	system configuration session id *number* started *string*
Tree	started
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

type *keyword*

Description	Type of configuration session
Context	system configuration session id *number* 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 session id *number* username *string*

Tree	username
String Length	1 to 255
Configurable	False
Platforms	Supported on all platforms

dhcp-server

Description	Configures the dhcp server
Context	system dhcp-server
Tree	dhcp-server
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Globally enable or disable the dhcp server Disabling this will disable all dhcp servers.
Context	system dhcp-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

network-instance name *reference*

Description	List of network instances to run a dhcp server in
Context	system dhcp-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 dhcp-server network-instance name *reference*

Reference network-instance name *string*

Configurable True

Platforms Supported on all platforms

dhcpv4

Description Enter the dhcpv4 context

Context system dhcp-server network-instance name *reference* dhcpv4

Tree dhcpv4

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description Administratively enable or disable the dhcp server

Context system dhcp-server network-instance name *reference* dhcpv4 admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description Details if the dhcp server is operationally available

Context system dhcp-server network-instance name *reference* dhcpv4 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.

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*

Description	An Ordered List of DNS servers to return to the dhcp client - option 6
Context	system dhcp-server network-instance name *reference* dhcpv4 options dns-server *string*
Tree	dns-server
Configurable	True
Platforms	Supported on all platforms
Max. Elements	4

domain-name *string*

Description	The domain name to return to the dhcp client that the client should use when resolving hostnames via the Domain Name System - option 15
Context	system dhcp-server network-instance name *reference* dhcpv4 options domain-name *string*
Tree	domain-name
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms

hostname *string*

Description	Host Name option of the dhcp client - option 12
Context	system dhcp-server network-instance name *reference* dhcpv4 options hostname *string*

Tree	hostname
String Length	1 to 63
Configurable	True
Platforms	Supported on all platforms

ntp-server *string*

Description	List of NTP Servers to return to the dhcp client - option 42
Context	system dhcp-server network-instance name *reference* dhcpv4 options ntp-server *string*
Tree	ntp-server
Configurable	True
Platforms	Supported on all platforms
Max. Elements	4

router *string*

Description	IPv4 address of the gateway for the dhcp client - option 3
Context	system dhcp-server network-instance name *reference* dhcpv4 options router *string*
Tree	router
Configurable	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 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 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 options tftp-server-name *string*
Tree	tftp-server-name
String Length	1 to 63
Configurable	True
Platforms	Supported on all platforms

static-allocation

Description	Enter the static-allocation context
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation
Tree	static-allocation
Configurable	True
Platforms	Supported on all platforms

host mac *string*

Description	host name for static ip allocations
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string*
Tree	host
Configurable	True

Platforms	Supported on all platforms

mac *string*

Description	Enter the mac context
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string*
Configurable	True
Platforms	Supported on all platforms

ip-address *string*

Description	Enter the ip-address context
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* ip-address *string*
Tree	ip-address
Configurable	True
Platforms	Supported on all platforms

options

Description	Enter the options context
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* 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 static-allocation host mac *string* options bootfile-name *string*
Tree	bootfile-name
String Length	1 to 128
Configurable	True

Platforms	Supported on all platforms

dns-server *string*

Description	An Ordered List of DNS servers to return to the dhcp client - option 6
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* options dns-server *string*
Tree	dns-server
Configurable	True
Platforms	Supported on all platforms
Max. Elements	4

domain-name *string*

Description	The domain name to return to the dhcp client that the client should use when resolving hostnames via the Domain Name System - option 15
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* options domain-name *string*
Tree	domain-name
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms

hostname *string*

Description	Host Name option of the dhcp client - option 12
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* options hostname *string*
Tree	hostname
String Length	1 to 63
Configurable	True
Platforms	Supported on all platforms

ntp-server *string*

Description	List of NTP Servers to return to the dhcp client - option 42

Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* options ntp-server *string*
Tree	ntp-server
Configurable	True
Platforms	Supported on all platforms
Max. Elements	4

router *string*

Description	IPv4 address of the gateway for the dhcp client - option 3
Context	system dhcp-server network-instance name *reference* dhcpv4 static-allocation host mac *string* options router *string*
Tree	router
Configurable	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
Context	system dhcp-server network-instance name *reference* dhcpv4 statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

client-packets-discarded *number*

Description	Total discarded dhcp packets from dhcp client(s)
Context	system dhcp-server network-instance name *reference* dhcpv4 statistics client-packets-discarded *number*
Tree	client-packets-discarded
Default	0
Configurable	False
Platforms	Supported on all platforms

client-packets-received *number*

Description	Total received dhcp packets from dhcp client(s)
Context	system dhcp-server network-instance name *reference* dhcpv4 statistics client-packets-received *number*
Tree	client-packets-received
Default	0
Configurable	False

Platforms	Supported on all platforms

server-packets-sent *number*

Description	Total dhcp packets sent from DHCP server towards dhcp client(s)
Context	system dhcp-server network-instance name *reference* dhcpv4 statistics server-packets-sent *number*
Tree	server-packets-sent
Default	0
Configurable	False
Platforms	Supported on all platforms

trace-options

Description	Container for tracing DHCP server operations instance
Context	system dhcp-server network-instance name *reference* dhcpv4 trace-options
Tree	trace-options
Configurable	True
Platforms	Supported on all platforms

trace *keyword*

Description	List of events to trace
Context	system dhcp-server network-instance name *reference* dhcpv4 trace-options trace *keyword*
Tree	trace
Options	• messages Capture all DHCP server messages sent and received
Configurable	True
Platforms	Supported on all platforms

dhcpv6

Description	Enter the dhcpv6 context
Context	system dhcp-server network-instance name *reference* dhcpv6
Tree	dhcpv6

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description Administratively enable or disable the dhcp server

Context system dhcp-server network-instance name *reference* dhcpv6 admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description Details if the dhcp server is operationally available

Context system dhcp-server network-instance name *reference* dhcpv6 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.

Configurable False

Platforms Supported on all platforms

options

Description Enter the options context

Context system dhcp-server network-instance name *reference* dhcpv6 options

Tree options

Configurable True

Platforms Supported on all platforms

dns-server *string*

Description An Ordered List of DNS servers to return to the dhcp client

Context system dhcp-server network-instance name *reference* dhcpv6 options dns-server *string*

Tree dns-server

Configurable True

Platforms Supported on all platforms

Max. Elements 4

static-allocation

Description	Enter the static-allocation context
Context	system dhcp-server network-instance name *reference* dhcpv6 static-allocation
Tree	static-allocation
Configurable	True
Platforms	Supported on all platforms

host mac *string*

Description	host name for static ip allocations
Context	system dhcp-server network-instance name *reference* dhcpv6 static-allocation host mac *string*
Tree	host
Configurable	True
Platforms	Supported on all platforms

mac *string*

Description	Enter the mac context
Context	system dhcp-server network-instance name *reference* dhcpv6 static-allocation host mac *string*
Configurable	True
Platforms	Supported on all platforms

ip-address *string*

Description	Enter the ip-address context
Context	system dhcp-server network-instance name *reference* dhcpv6 static-allocation host mac *string* ip-address *string*
Tree	ip-address
Configurable	True
Platforms	Supported on all platforms

options

Description	Enter the options context
Context	system dhcp-server network-instance name *reference* dhcpv6 static-allocation host mac *string* options
Tree	options
Configurable	True
Platforms	Supported on all platforms

dns-server *string*

Description	An Ordered List of DNS servers to return to the dhcp client
Context	system dhcp-server network-instance name *reference* dhcpv6 static-allocation host mac *string* options dns-server *string*
Tree	dns-server
Configurable	True
Platforms	Supported on all platforms
Max. Elements	4

statistics

Description	Enter the statistics context
Context	system dhcp-server network-instance name *reference* dhcpv6 statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

client-packets-discarded *number*

Description	Total discarded dhcp packets from dhcp client(s)
Context	system dhcp-server network-instance name *reference* dhcpv6 statistics client-packets-discarded *number*
Tree	client-packets-discarded
Default	0
Configurable	False
Platforms	Supported on all platforms

client-packets-received *number*

Description	Total received dhcp packets from dhcp client(s)
Context	system dhcp-server network-instance name *reference* dhcpv6 statistics client-packets-received *number*
Tree	client-packets-received
Default	0
Configurable	False
Platforms	Supported on all platforms

server-packets-sent *number*

Description	Total dhcp packets sent from DHCP server towards dhcp client(s)
Context	system dhcp-server network-instance name *reference* dhcpv6 statistics server-packets-sent *number*
Tree	server-packets-sent
Default	0
Configurable	False
Platforms	Supported on all platforms

trace-options

Description	Container for tracing DHCP server operations instance
Context	system dhcp-server network-instance name *reference* dhcpv6 trace-options
Tree	trace-options
Configurable	True
Platforms	Supported on all platforms

trace *keyword*

Description	List of events to trace
Context	system dhcp-server network-instance name *reference* dhcpv6 trace-options trace *keyword*
Tree	trace
Options	• messages Capture all DHCP server messages sent and received
Configurable	True

Platforms	Supported on all platforms

dns

Description	Top-level container for DNS configuration and state
Context	system dns
Tree	dns
Configurable	True
Platforms	Supported on all platforms

host-entry name *string*

Description	List of static host entries
Context	system dns host-entry name *string*
Tree	host-entry
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of host entry
Context	system dns host-entry name *string*
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms

ipv4-address *string*

Description	IPv4 address for the host entry
Context	system dns host-entry name *string* ipv4-address *string*
Tree	ipv4-address
Configurable	True
Platforms	Supported on all platforms

ipv6-address *string*

Description	IPv6 address for the host entry
Context	system dns host-entry name *string* ipv6-address *string*
Tree	ipv6-address
Configurable	True
Platforms	Supported on all platforms

network-instance *reference*

Description	Reference to a configured network-instance to source DNS requests from
Context	system dns network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

oper-state *keyword*

Description	Details the operational state of the DNS client
Context	system dns 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.

Configurable False

Platforms Supported on all platforms

search-list *string*

Description An ordered list of domains to search when resolving a host name

Context system dns search-list *string*

Tree search-list

String Length 1 to 253

Configurable True

Platforms Supported on all platforms

server-list *(ipv4-address | ipv6-address)*

Description List of the DNS servers that the resolver should query

Context system dns server-list *(ipv4-address | ipv6-address)*

Tree server-list

Configurable True

Platforms Supported on all platforms

Max. Elements 3

event-handler

Description Top-level container for configuration and state of event handler and event handling instances

Context system event-handler

Tree event-handler

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

instance name *string*

Description 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.

Context system event-handler instance name *string*

Tree instance

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

Max. Elements 20

name *string*

Description A user-defined name for this event handler instance

Context system event-handler instance name *string*

String Length 1 to 255

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description Administratively enable or disable this event handler instance

Context system event-handler instance name *string* admin-state *keyword*

Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-errored-execution

Description	Operational state of the last errored execution of this instance
Context	system event-handler instance name *string* last-errored-execution
Tree	last-errored-execution
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-time *string*

Description	The time this instance last finished execution This timestamp includes any actions provided as output from the execution
Context	system event-handler instance name *string* last-errored-execution end-time *string*
Tree	end-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

input *string*

Description	The input provided to the script
Context	system event-handler instance name *string* last-errored-execution input *string*
Tree	input

Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-down-reason *keyword*

Description	The reason this instance is or was in its last operational state
Context	system event-handler instance name *string* last-errored-execution oper-down-reason *keyword*
Tree	oper-down-reason
Options	• admin-disabled Event handler instance is admin-disabled • failed-to-compile Event handler failed to compile the script, indicating that the script likely has a syntax error • exception Event handler caught an exception in the last execution of the script • timeout The last execution of the script did not complete before a timeout occurred • subscription-failed Event handler was unable to subscribe to the provided paths • script-unavailable Event handler was unable to find the script on the filesystem • script-error 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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

stdout-stderr *string*

Description	The output printed on STDOUT or STDERR during this execution
Context	system event-handler instance name *string* last-errored-execution stdout-stderr *string*
Tree	stdout-stderr
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

upython-duration *number*

Description	Time taken for the instance to return output
Context	system event-handler instance name *string* last-errored-execution upython-duration *number*
Tree	upython-duration
Units	microseconds
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

last-execution

Description	Operational state of the last execution of this instance
Context	system event-handler instance name *string* last-execution

Tree	last-execution
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-time *string*

Description	The time this instance last finished execution This timestamp includes any actions provided as output from the execution
Context	system event-handler instance name *string* last-execution end-time *string*
Tree	end-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

input *string*

Description	The input provided to the script
Context	system event-handler instance name *string* last-execution input *string*
Tree	input
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-down-reason *keyword*

Description	The reason this instance is or was in its last operational state
Context	system event-handler instance name *string* last-execution oper-down-reason *keyword*
Tree	oper-down-reason
Options	• admin-disabled Event handler instance is admin-disabled • failed-to-compile

Event handler failed to compile the script, indicating that the script likely has a syntax error

- exception

  Event handler caught an exception in the last execution of the script

- timeout

  The last execution of the script did not complete before a timeout occurred

- subscription-failed

  Event handler was unable to subscribe to the provided paths

- script-unavailable

  Event handler was unable to find the script on the filesystem

- script-error

  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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

output *string*

Description	The output received from the script If empty, no response was received.
Context	system event-handler instance name *string* last-execution output *string*
Tree	output
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start-time *string*

Description	The time this instance last started execution
Context	system event-handler instance name *string* last-execution start-time *string*
Tree	start-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

stdout-stderr *string*

Description	The output printed on STDOUT or STDERR during this execution
Context	system event-handler instance name *string* last-execution stdout-stderr *string*

Tree	stdout-stderr
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

upython-duration *number*

Description	Time taken for the instance to return output
Context	system event-handler instance name *string* last-execution upython-duration *number*
Tree	upython-duration
Units	microseconds
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description	Details if this event handler instance is operationally available
Context	system event-handler instance name *string* 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.

Configurable False

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	36

statistics

Description	Top-level container for event handler statistics
Context	system event-handler instance name *string* statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

execution-count *number*

Description	Indicates the total number of executions of this script
Context	system event-handler instance name *string* statistics execution-count *number*
Tree	execution-count
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

execution-errors *number*

Description	Indicates the total number of errors in executions of this script
Context	system event-handler instance name *string* statistics execution-errors *number*
Tree	execution-errors
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

execution-successes *number*

Description	Indicates the total number of successful executions of this script
Context	system event-handler instance name *string* statistics execution-successes *number*
Tree	execution-successes
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

execution-timeouts *number*

Description	Indicates the total number of timeouts in executions of this script
Context	system event-handler instance name *string* statistics execution-timeouts *number*
Tree	execution-timeouts
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

upython-duration *number*

Description	Total time taken for all executions of this script to return output

Context	system event-handler instance name *string* statistics upython-duration *number*
Tree	upython-duration
Units	milliseconds
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

upython-script *string*

Description	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.
Context	system event-handler instance name *string* upython-script *string*
Tree	upython-script
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

run-as-user *reference*

Description	The user to run event handler instances as If no user is configured, scripts are executed as the 'admin' user.
Context	system event-handler run-as-user *reference*
Tree	run-as-user
Reference	system aaa authentication user username *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

features *string*

Description	Features enabled on this platform
Context	system features *string*
Tree	features

String Length	1 to 255
Configurable	False
Platforms	Supported on all platforms

ftp-server

Description	Top-level container for FTP server configuration and state
Context	system ftp-server
Tree	ftp-server
Configurable	True
Platforms	Supported on all platforms

network-instance name *reference*

Description	List of network-instances to run an FTP server in
Context	system ftp-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 ftp-server network-instance name *reference*
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enables or disables the FTP server in this network-instance
Context	system ftp-server network-instance name *reference* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable

- disable

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description Details the operational state of the FTP server

Context system ftp-server 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.

Configurable False

Platforms Supported on all platforms

session-limit *number*

Description Set a limit on the number of simultaneous active FTP sessions

Context system ftp-server network-instance name *reference* session-limit *number*

Tree session-limit

Default 20

Configurable True

Platforms Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description 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'.

Context system ftp-server network-instance name *reference* source-address *(ipv4-address | ipv6-address)*

Tree source-address

Default ::

Configurable True

Platforms Supported on all platforms

timeout *number*

Description Set the idle timeout in seconds on FTP connections

Context system ftp-server network-instance name *reference* timeout *number*

Tree timeout

Default 300

Units seconds

Configurable	True
Platforms	Supported on all platforms

gnmi-server

Description	Configures the gNMI server access API
Context	system gnmi-server
Tree	gnmi-server
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Globally enable or disable the gNMI server Disabling this will disable all gNMI servers.
Context	system gnmi-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

commit-confirmed-timeout *number*

Description	Number of seconds to wait for confirmation. A value of 0 means commit confirmed is not used
Context	system gnmi-server commit-confirmed-timeout *number*
Tree	commit-confirmed-timeout
Range	0 to 86400
Default	0
Units	seconds
Configurable	True
Platforms	Supported on all platforms

commit-save *boolean*

Description	Specifies whether to save startup configuration after every successful commit
Context	system gnmi-server commit-save *boolean*
Tree	commit-save
Default	false
Configurable	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
- disable

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description Details if the gNMI server is operationally available

Context system gnmi-server 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.

Configurable False

Platforms Supported on all platforms

port *number*

Description Port the gNMI server will listen on for incoming connections

Context system gnmi-server network-instance name *reference* port *number*

Tree port

Range 0 to 65535

Default 57400

Configurable True

Platforms Supported on all platforms

services *identityref*

Description The gRPC service definitions that should be enabled for the specified server. A target may support only specific sets of services being enabled on the same server (e.g., it may be possible to run gNMI and gNOI services on the same port, but not to run gRIBI and gNMI on the same port).

The set of gRPC services that are available to be configured is defined through the grpc-service identity, which can be extended for each protocol that is based on gRPC that is available on the device.

Context system gnmi-server network-instance name *reference* services *identityref*

Tree services

Options

- gnmi

  gNMI: gRPC Network Management Interface

- gnoi

  gNOI: gRPC Network Operations Interface
- gnsi

  gNSI: gRPC Network Security Interface

Configurable True

Platforms Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description List of IP addresses the gNMI server will listen on within the network instance

Context system gnmi-server network-instance name *reference* source-address *(ipv4-address | ipv6-address)*

Tree source-address

Default ::

Configurable True

Platforms Supported on all platforms

tls-profile *reference*

Description Reference to the TLS profile to use on the gNMI server

If none is specified, then TLS is not used.

Context system gnmi-server network-instance name *reference* tls-profile *reference*

Tree tls-profile

Reference system tls server-profile name *string*

Configurable True

Platforms Supported on all platforms

use-authentication *boolean*

Description Enable or disable the use of username/password authentication for every gNMI request

Context system gnmi-server network-instance name *reference* use-authentication *boolean*

Tree use-authentication

Default true

Configurable True

Platforms	Supported on all platforms

yang-models *keyword*

Description	Specify yang-models to be used when origin field is not present in the gnmi requests
Context	system gnmi-server network-instance name *reference* yang-models *keyword*
Tree	yang-models
Default	native
Options	• native • openconfig
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit *number*

Description	Set a limit on the number of connection attempts per minute
Context	system gnmi-server rate-limit *number*
Tree	rate-limit
Range	0 to 65535
Default	60
Configurable	True
Platforms	Supported on all platforms

session-limit *number*

Description	Set a limit on the number of simultaneous active gNMI sessions
Context	system gnmi-server session-limit *number*
Tree	session-limit
Range	0 to 65535
Default	20
Configurable	True
Platforms	Supported on all platforms

subscription id *number*

Description	List of subscriptions
Context	system gnmi-server subscription id *number*
Tree	subscription
Configurable	False
Platforms	Supported on all platforms

id *number*

Description	System generated ID for for the subscription
Context	system gnmi-server subscription id *number*
Range	0 to 4294967295
Configurable	False
Platforms	Supported on all platforms

mode *keyword*

Description	Subscription mode (ON_CHANGE, SAMPLE, TARGET_DEFINED, POLL, ONCE)
Context	system gnmi-server subscription id *number* mode *keyword*
Tree	mode
Options	• ON_CHANGE • SAMPLE • TARGET_DEFINED • POLL • ONCE
Configurable	False
Platforms	Supported on all platforms

paths *string*

Description	List of paths being subscribed to
Context	system gnmi-server subscription id *number* paths *string*
Tree	paths
Configurable	False

Platforms	Supported on all platforms

remote-host *(ipv4-address | ipv6-address)*

Description	Remote host of the subscription
Context	system gnmi-server subscription id *number* remote-host *(ipv4-address | ipv6-address)*
Tree	remote-host
Configurable	False
Platforms	Supported on all platforms

remote-port *number*

Description	Remote port of the subscription
Context	system gnmi-server subscription id *number* remote-port *number*
Tree	remote-port
Range	0 to 65535
Configurable	False
Platforms	Supported on all platforms

sample-interval *number*

Description	Time in seconds to provide updates to the remote host, set to 0 for all subscription modes except SAMPLE
Context	system gnmi-server subscription id *number* sample-interval *number*
Tree	sample-interval
Units	seconds
Configurable	False
Platforms	Supported on all platforms

start-time *string*

Description	Time of the subscription creation
Context	system gnmi-server subscription id *number* start-time *string*
Tree	start-time
String Length	20 to 32

Configurable	False
Platforms	Supported on all platforms

user *string*

Description	Authenticated username for the subscription
Context	system gnmi-server subscription id *number* user *string*
Tree	user
Configurable	False
Platforms	Supported on all platforms

user-agent *string*

Description	User agent used for the subscription
Context	system gnmi-server subscription id *number* user-agent *string*
Tree	user-agent
Configurable	False
Platforms	Supported on all platforms

timeout *number*

Description	Set the idle timeout in seconds on gNMI connections
Context	system gnmi-server timeout *number*
Tree	timeout
Range	0 to 65535
Default	7200
Units	seconds
Configurable	True
Platforms	Supported on all platforms

trace-options *keyword*

Description	gNMI trace options
Context	system gnmi-server trace-options *keyword*
Tree	trace-options
Options	• request

- response
- common
- grpc

Configurable True

Platforms Supported on all platforms

unix-socket

Description Top-level container for configuration and state related to unix sockets

Context system gnmi-server unix-socket

Tree unix-socket

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description Administratively enable or disable the gNMI server

Context system gnmi-server unix-socket admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description Details if the gNMI server is operationally available

Context system gnmi-server unix-socket 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.

Configurable False

Platforms Supported on all platforms

services *identityref*

Description The gRPC service definitions that should be enabled for the specified server. A target may support only specific sets of services being enabled on the same server (e.g., it may be possible to run gNMI and gNOI services on the same port, but not to run gRIBI and gNMI on the same port).

The set of gRPC services that are available to be configured is defined through the grpc-service identity, which can be extended for each protocol that is based on gRPC that is available on the device.

Context system gnmi-server unix-socket services *identityref*

Tree	services
Options	• gnmi gNMI: gRPC Network Management Interface • gnoi gNOI: gRPC Network Operations Interface • gnsi gNSI: gRPC Network Security Interface
Configurable	True
Platforms	Supported on all platforms

socket-path *string*

Description	Path to the unix socket used by gNMI
Context	system gnmi-server unix-socket socket-path *string*
Tree	socket-path
Configurable	False
Platforms	Supported on all platforms

tls-profile *reference*

Description	Reference to the TLS profile to use on the gNMI server If none is specified, then TLS is not used.
Context	system gnmi-server unix-socket tls-profile *reference*
Tree	tls-profile
Reference	system tls server-profile name *string*
Configurable	True
Platforms	Supported on all platforms

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every gNMI request
Context	system gnmi-server unix-socket use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True

Platforms	Supported on all platforms

yang-models *keyword*

Description	Specify yang-models to be used when origin field is not present in the gnmi requests
Context	system gnmi-server unix-socket yang-models *keyword*
Tree	yang-models
Default	native
Options	• native • openconfig
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

gribi-server

Description	Configures the gRPC Routing Information Base Interface (gRIBI) service
Context	system gribi-server
Tree	gribi-server
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Globally enable or disable the gRIBI service Disabling this will disable all gRIBI sockets in all configured network-instances (including unix sockets).
Context	system gribi-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

client id *number*

Description	List of active gRIBI client sessions
Context	system gribi-server client id *number*
Tree	client
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	System generated ID for for the client
Context	system gribi-server client id *number*
Range	0 to 4294967295
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-port *number*

Description	Remote port of the client
Context	system gribi-server client id *number* remote-port *number*
Tree	remote-port
Range	0 to 65535
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start-time *string*

Description	Time the client first connected
Context	system gribi-server client id *number* start-time *string*
Tree	start-time
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

user *string*

Description	Authenticated username for the client
Context	system gribi-server client id *number* user *string*
Tree	user
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

user-agent *string*

Description	User agent used for by the client
Context	system gribi-server client id *number* user-agent *string*
Tree	user-agent
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

network-instance name *reference*

Description	List of network instances to run a gRIBI socket in
Context	system gribi-server network-instance name *reference*
Tree	network-instance
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *reference*

Description	Reference to a configured network instance
Context	system gribi-server network-instance name *reference*
Reference	network-instance name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Administratively enable or disable the gRIBI service
Context	system gribi-server network-instance name *reference* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description Details if the gRIBI service is operationally available

Context system gribi-server 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.

Configurable False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

source-address *(ipv4-address | ipv6-address)*

Description	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.
Context	system gribi-server network-instance name *reference* source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

tls-profile *reference*

Description	Reference to the TLS profile to use on the gRIBI server
Context	system gribi-server network-instance name *reference* tls-profile *reference*
Tree	tls-profile
Reference	system tls server-profile name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every gRIBI RPC request

Context	system gribi-server network-instance name *reference* use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit *number*

Description	Set a limit on the number of connection attempts per minute
Context	system gribi-server rate-limit *number*
Tree	rate-limit
Range	0 to 65535
Default	60
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-limit *number*

Description	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.
Context	system gribi-server session-limit *number*
Tree	session-limit
Range	0 to 65535
Default	20
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

timeout *number*

Description	Set the idle timeout in seconds on gRIBI clients
Context	system gribi-server timeout *number*
Tree	timeout
Range	0 to 65535
Default	7200

Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options *keyword*

Description	gRIBI trace options
Context	system gribi-server trace-options *keyword*
Tree	trace-options
Options	• request • response • common • grpc
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unix-socket

Description	Top-level container for configuration and state related to unix sockets
Context	system gribi-server unix-socket
Tree	unix-socket
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Administratively enable or disable the gRIBI service
Context	system gribi-server unix-socket admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description Details if the gRIBI service is operationally available

Context system gribi-server unix-socket 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.

Configurable False

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.
Context	system gribi-server unix-socket tls-profile *reference*
Tree	tls-profile
Reference	system tls server-profile name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every gRIBI RPC request
Context	system gribi-server unix-socket use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

information

Description	Top-level container for system information configuration and state
Context	system information
Tree	information
Configurable	True

Platforms	Supported on all platforms

contact *string*

Description	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.
Context	system information contact *string*
Tree	contact
Configurable	True
Platforms	Supported on all platforms

current-datetime *string*

Description	The current system date and time
Context	system information current-datetime *string*
Tree	current-datetime
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

description *string*

Description	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.
Context	system information description *string*
Tree	description
Configurable	False
Platforms	Supported on all platforms

last-booted *string*

Description	The date and time the system was last booted
Context	system information last-booted *string*

Tree	last-booted
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

location *string*

Description	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.
Context	system information location *string*
Tree	location
Configurable	True
Platforms	Supported on all platforms

version *string*

Description	The system version This field represents the version of the management server
Context	system information version *string*
Tree	version
Configurable	False
Platforms	Supported on all platforms

json-rpc-server

Description	Configures the JSON RPC access API
Context	system json-rpc-server
Tree	json-rpc-server
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Globally enable or disable the JSON RPC server Disabling this will disable all JSON RPC servers.
Context	system json-rpc-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

commit-confirmed-timeout *number*

Description	Number of seconds to wait for confirmation. A value of 0 means commit confirmed is not used
Context	system json-rpc-server commit-confirmed-timeout *number*
Tree	commit-confirmed-timeout
Range	0 to 86400
Default	0
Units	seconds
Configurable	True
Platforms	Supported on all platforms

network-instance name *reference*

Description	List of network instances to run the JSON RPC server in
Context	system json-rpc-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 json-rpc-server network-instance name *reference*
Reference	network-instance name *string*

Configurable	True
Platforms	Supported on all platforms

http

Description	Top-level container for the JSON RPC HTTP server
Context	system json-rpc-server network-instance name *reference* http
Tree	http
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable the HTTP JSON RPC server This requires the JSON RPC server to be globally enabled
Context	system json-rpc-server network-instance name *reference* http admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

oper-state *keyword*

Description	Details if the JSON RPC server is operationally available
Context	system json-rpc-server network-instance name *reference* http 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.

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)*

Description	List of IP addresses the JSON RPC server will listen on within the network instance
Context	system json-rpc-server network-instance name *reference* http source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Default	::
Configurable	True
Platforms	Supported on all platforms

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every JSON RPC request
Context	system json-rpc-server network-instance name *reference* http use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True
Platforms	Supported on all platforms

https

Description Top-level container for the JSON-RPC HTTPS server

Context system json-rpc-server network-instance name *reference* https

Tree https

Configurable True

Platforms Supported on all platforms

admin-state *keyword*

Description Administratively enable or disable the HTTPS JSON RPC server This requires the JSON RPC server to be globally enabled

Context system json-rpc-server network-instance name *reference* https admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms Supported on all platforms

oper-state *keyword*

Description Details if the JSON RPC server is operationally available

Context system json-rpc-server network-instance name *reference* https 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.

Configurable False

Platforms Supported on all platforms

port *number*

Description Port the HTTPS JSON RPC server will listen on for incoming connections

Context system json-rpc-server network-instance name *reference* https port *number*

Tree port

Range 0 to 65535

Default 443

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* https 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)*

Description	List of IP addresses the JSON RPC server will listen on within the network instance
Context	system json-rpc-server network-instance name *reference* https source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Default	::
Configurable	True
Platforms	Supported on all platforms

tls-profile *reference*

Description	Reference to the TLS profile to use on the HTTP JSON RPC server
Context	system json-rpc-server network-instance name *reference* https tls-profile *reference*
Tree	tls-profile
Reference	system tls server-profile name *string*
Configurable	True
Platforms	Supported on all platforms

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every JSON RPC request

Context	system json-rpc-server network-instance name *reference* https use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True
Platforms	Supported on all platforms

trace-options *keyword*

Description	JSON RPC trace options
Context	system json-rpc-server trace-options *keyword*
Tree	trace-options
Options	• request • response • common
Configurable	True
Platforms	Supported on all platforms

unix-socket

Description	Top-level container for configuration and state related to unix sockets
Context	system json-rpc-server unix-socket
Tree	unix-socket
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable the JSON RPC server via unix socket This requires the JSON RPC server to be globally enabled
Context	system json-rpc-server unix-socket admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True

Platforms Supported on all platforms

oper-state *keyword*

Description Details if the JSON RPC server is operationally available

Context system json-rpc-server unix-socket 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.

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*

Description	Reference to the TLS profile to use on the JSON RPC unix socket server If none is specified, then TLS is not used.
Context	system json-rpc-server unix-socket tls-profile *reference*
Tree	tls-profile
Reference	system tls server-profile name *string*
Configurable	True
Platforms	Supported on all platforms

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every JSON RPC request
Context	system json-rpc-server unix-socket use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True
Platforms	Supported on all platforms

l2cp-transparency

Description	Enclosing container for system level Layer-2 Control Protocol transparency.
Context	system l2cp-transparency
Tree	l2cp-transparency
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

l2cp-statistics

Description	Container for Layer-2 Control Plane protocol statistics.
Context	system l2cp-transparency l2cp-statistics
Tree	l2cp-statistics
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dot1x

Description	Container for 802.1x protocols.
Context	system l2cp-transparency l2cp-statistics dot1x
Tree	dot1x
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-trap-to-cpu-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics dot1x in-trap-to-cpu-packets *number*
Tree	in-trap-to-cpu-packets
Default	0
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-tunneled-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics dot1x in-tunneled-packets *number*
Tree	in-tunneled-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Timestamp of the last time the LACP counters were cleared.
Context	system l2cp-transparency l2cp-statistics dot1x last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lacp

Description	Container for LACP.
Context	system l2cp-transparency l2cp-statistics lacp
Tree	lacp
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-trap-to-cpu-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics lacp in-trap-to-cpu-packets *number*
Tree	in-trap-to-cpu-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-tunneled-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics lacp in-tunneled-packets *number*
Tree	in-tunneled-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Timestamp of the last time the LACP counters were cleared.
Context	system l2cp-transparency l2cp-statistics lacp last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Timestamp of the last time the L2CP counters were cleared.
Context	system l2cp-transparency l2cp-statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lldp

Description	Container for LLDP.
Context	system l2cp-transparency l2cp-statistics lldp
Tree	lldp
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-trap-to-cpu-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics lldp in-trap-to-cpu-packets *number*
Tree	in-trap-to-cpu-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-tunneled-packets *number*

Description	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.

Context	system l2cp-transparency l2cp-statistics lldp in-tunneled-packets *number*
Tree	in-tunneled-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Timestamp of the last time the LACP counters were cleared.
Context	system l2cp-transparency l2cp-statistics lldp last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ptp

Description	Container for Precision Time Protocol Peer-Delay protocol.
Context	system l2cp-transparency l2cp-statistics ptp
Tree	ptp
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-trap-to-cpu-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics ptp in-trap-to-cpu-packets *number*
Tree	in-trap-to-cpu-packets
Default	0
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-tunneled-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics ptp in-tunneled-packets *number*
Tree	in-tunneled-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Timestamp of the last time the PTP counters were cleared.
Context	system l2cp-transparency l2cp-statistics ptp last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-in-discarded-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics total-in-discarded-packets *number*
Tree	total-in-discarded-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-in-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics total-in-packets *number*
Tree	total-in-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-in-trap-to-cpu-packets *number*

Description	System level incoming L2CP copy-to-cpu frames. 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.
Context	system l2cp-transparency l2cp-statistics total-in-trap-to-cpu-packets *number*
Tree	total-in-trap-to-cpu-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

total-in-tunneled-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics total-in-tunneled-packets *number*
Tree	total-in-tunneled-packets
Default	0
Configurable	False

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

xstp

Description	Container for Spanning Tree Protocols.
Context	system l2cp-transparency l2cp-statistics xstp
Tree	xstp
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-trap-to-cpu-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics xstp in-trap-to-cpu-packets *number*
Tree	in-trap-to-cpu-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

in-tunneled-packets *number*

Description	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.
Context	system l2cp-transparency l2cp-statistics xstp in-tunneled-packets *number*
Tree	in-tunneled-packets
Default	0
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-clear *string*

Description	Timestamp of the last time the xSTP counters were cleared.
Context	system l2cp-transparency l2cp-statistics xstp last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lacp

Description	Enter the lacp context
Context	system lacp
Tree	lacp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

license id *string*

Description	List of licenses configured on the system
Context	system license id *string*
Tree	license
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e
Max. Elements	5

id *string*

Description	Unique identifier for this license
Context	system license id *string*
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Enable or disable the use of this license
Context	system license id *string* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

data *string*

Description	Content of the license This content includes a preceding UUID, followed by a space and the license data. For example: 00000000-0000-0000-0000-000000000000 aACUAx...r YzNRPT0AAAAA
Context	system license id *string* data *string*
Tree	data
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

description *string*

Description	A user provided description for the license
Context	system license id *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

expiration-date *string*

Description	Date and time the license will expire
Context	system license id *string* expiration-date *string*
Tree	expiration-date
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

expired *boolean*

Description	Indicates if the license has expired
Context	system license id *string* expired *boolean*
Tree	expired
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

in-use *boolean*

Description	Indicates if the license is actively in use
Context	system license id *string* in-use *boolean*
Tree	in-use
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

valid *boolean*

Description	Indicates if the license is valid for use
Context	system license id *string* valid *boolean*
Tree	valid
Configurable	False
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lldp

Description	Top-level container for LLDP configuration and state data
Context	system lldp
Tree	lldp
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enable or disable LLDP at the system level
Context	system lldp admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

chassis-id *string*

Description The Chassis ID is a mandatory TLV which identifies the chassis component of the endpoint identifier associated with the transmitting LLDP agent

Context system lldp chassis-id *string*

Tree chassis-id

Configurable False

Platforms Supported on all platforms

chassis-id-type *keyword*

Description The source for the chassis identifier string

It is an enumerator defined by the LldpChassisIdSubtype object from IEEE 802.1AB MIB.

Context system lldp chassis-id-type *keyword*

Tree chassis-id-type

Default 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*

Description	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 LLDPDUs.
Context	system lldp hold-multiplier *number*
Tree	hold-multiplier
Default	4
Configurable	True
Platforms	Supported on all platforms

interface name *reference*

Description	List of interfaces on which LLDP can be enabled
Context	system lldp interface name *reference*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

name *reference*

Description	Reference to the LLDP Ethernet interface
Context	system lldp interface name *reference*
Reference	interface name *string*
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enable or disable LLDP on the interface
Context	system lldp interface name *reference* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

neighbor id *string*

Description	List of LLDP neighbors on this interface
Context	system lldp interface name *reference* neighbor id *string*
Tree	neighbor
Configurable	False
Platforms	Supported on all platforms

id *string*

Description	System generated identifier for the remote neighbor
Context	system lldp interface name *reference* neighbor id *string*
Configurable	False
Platforms	Supported on all platforms

capability name *identityref*

Description List of LLDP system capabilities advertised by the neighbor

Context system lldp interface name *reference* neighbor id *string* capability name *identityref*

Tree capability

Configurable False

Platforms Supported on all platforms

name *identityref*

Description 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.

Context system lldp interface name *reference* neighbor id *string* capability name *identityref*

Options

- OTHER

  Other capability not specified; bit position 1
- REPEATER

  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

Context system lldp interface name *reference* neighbor id *string* chassis-id *string*

Tree chassis-id

Configurable False

Platforms Supported on all platforms

chassis-id-type *keyword*

Description The type of identifier used in the chassis-id field

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.

Context system lldp interface name *reference* neighbor id *string* chassis-id-type *keyword*

Tree chassis-id-type

Default 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

custom-tlv type *number* oui *string* oui-subtype *string*

Description List of custom LLDP TLVs from a neighbor

Context system lldp interface name *reference* neighbor id *string* custom-tlv type *number* oui *string* oui-subtype *string*

Tree custom-tlv

Configurable False

Platforms Supported on all platforms

type *number*

Description The integer value identifying the type of information contained in the value field.

Context system lldp interface name *reference* neighbor id *string* custom-tlv type *number* oui *string* oui-subtype *string*

Configurable False

Platforms	Supported on all platforms

oui *string*

Description	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].
Context	system lldp interface name *reference* neighbor id *string* custom-tlv type *number* oui *string* oui-subtype *string*
Configurable	False
Platforms	Supported on all platforms

oui-subtype *string*

Description	The subtype value defined by the OUI for this custom TLV The organizationally defined subtype field shall contain a unique subtype value assigned by the defining organization.
Context	system lldp interface name *reference* neighbor id *string* custom-tlv type *number* oui *string* oui-subtype *string*
Configurable	False
Platforms	Supported on all platforms

value *binary*

Description	A variable-length octet-string containing the value for this TLV
Context	system lldp interface name *reference* neighbor id *string* custom-tlv type *number* oui *string* oui-subtype *string* value *binary*
Tree	value
Configurable	False
Platforms	Supported on all platforms

first-message *string*

Description	Date and time of the first message from neighbor
Context	system lldp interface name *reference* neighbor id *string* first-message *string*
Tree	first-message

String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

last-update *string*

Description	Date and time of the last update from neighbor
Context	system lldp interface name *reference* neighbor id *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

management-address address *string*

Description	List of management addresses received from the remote LLDP neighbor
Context	system lldp interface name *reference* neighbor id *string* management-address address *string*
Tree	management-address
Configurable	False
Platforms	Supported on all platforms

address *string*

Description	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.
Context	system lldp interface name *reference* neighbor id *string* management-address address *string*
Configurable	False
Platforms	Supported on all platforms

type *keyword*

Description	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.

Context system lldp interface name *reference* neighbor id *string* management-address address *string* type *keyword*

Tree type

Options

- IPv4

  Use IPv4 address for management address type

- IPv6

  Use IPv6 address for management address type

Configurable False

Platforms Supported on all platforms

port-description *string*

Description The description of the port referenced in the port-id field

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.

Context system lldp interface name *reference* neighbor id *string* port-description *string*

Tree port-description

Configurable False

Platforms Supported on all platforms

port-id *(string | binary)*

Description 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.

Context system lldp interface name *reference* neighbor id *string* port-id *(string | binary)*

Tree port-id

Configurable False

Platforms Supported on all platforms

port-id-type *keyword*

Description 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.

Context system lldp interface name *reference* neighbor id *string* port-id-type *keyword*

Tree port-id-type

Options

- INTERFACE_ALIAS

  Chassis identifier based on the value of ifAlias object defined in IETF RFC 2863

- PORT_COMPONENT

  Port identifier based on the value of entPhysicalAlias object defined in IETF RFC 2737 for a port component

- MAC_ADDRESS

  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

- NETWORK_ADDRESS

  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 identifer 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

Configurable False

Platforms Supported on all platforms

system-description *string*

Description The system description of the remote neighbor

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.

Context	system lldp interface name *reference* neighbor id *string* system-description *string*
Tree	system-description
String Length	0 to 255
Configurable	False
Platforms	Supported on all platforms

system-name *string*

Description	The administratively assigned name of the remote neighbor 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.
Context	system lldp interface name *reference* neighbor id *string* system-name *string*
Tree	system-name
String Length	0 to 255
Configurable	False
Platforms	Supported on all platforms

oper-state *keyword*

Description	Details the operational state of LLDP on the interface
Context	system lldp interface 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.

Configurable False

Platforms Supported on all platforms

statistics

Description LLDP counters on each interface

Context system lldp interface name *reference* statistics

Tree statistics

Configurable False

Platforms Supported on all platforms

frame-discard *number*

Description The number of LLDP frames received and discarded

Context system lldp interface name *reference* statistics frame-discard *number*

Tree frame-discard

Default 0

Configurable	False
Platforms	Supported on all platforms

frame-error-in *number*

Description	The number of LLDP frames received with errors
Context	system lldp interface name *reference* statistics frame-error-in *number*
Tree	frame-error-in
Default	0
Configurable	False
Platforms	Supported on all platforms

frame-error-out *number*

Description	The number of frame transmit errors on the interface
Context	system lldp interface name *reference* statistics frame-error-out *number*
Tree	frame-error-out
Default	0
Configurable	False
Platforms	Supported on all platforms

frame-in *number*

Description	The number of LLDP frames received
Context	system lldp interface name *reference* 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 interface name *reference* 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 interface name *reference* statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

tlv-discard *number*

Description	The number of TLV frames received and discarded
Context	system lldp interface name *reference* 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 interface name *reference* statistics tlv-unknown *number*
Tree	tlv-unknown
Default	0
Configurable	False
Platforms	Supported on all platforms

management-address subinterface *string*

Description	List of subinterfaces to source management addresses from This list is sent in the management address TLV by LLDP.
Context	system lldp management-address subinterface *string*
Tree	management-address

Configurable	True
Platforms	Supported on all platforms

subinterface *string*

Description	Reference to the subinterface to source management addresses
Context	system lldp management-address subinterface *string*
String Length	5 to 25
Configurable	True
Platforms	Supported on all platforms

type *keyword*

Description	Types of addresses sent in the management address TLV 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.
Context	system lldp management-address subinterface *string* type *keyword*
Tree	type
Options	• IPv4 Use IPv4 address for management address type • IPv6 Use IPv6 address for management address type
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Global LLDP counters
Context	system lldp statistics
Tree	statistics
Configurable	False
Platforms	Supported on all platforms

entries-aged-out *number*

Description	The number of entries aged out due to timeout.
Context	system lldp statistics entries-aged-out *number*
Tree	entries-aged-out
Default	0
Configurable	False
Platforms	Supported on all platforms

frame-discard *number*

Description	The number of LLDP frames received and discarded
Context	system lldp statistics frame-discard *number*
Tree	frame-discard
Default	0
Configurable	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*
Tree	system-description
String Length	0 to 255
Configurable	False
Platforms	Supported on all platforms

system-name *string*

Description	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.
Context	system lldp system-name *string*
Tree	system-name
String Length	0 to 255
Configurable	False
Platforms	Supported on all platforms

trace-options *keyword*

Description	LLDP trace options
Context	system lldp trace-options *keyword*

Tree	trace-options
Options	• received • transmitted • common
Configurable	True
Platforms	Supported on all platforms

load-balancing

Description	Adjust system-wide ECMP load balancing options.
Context	system load-balancing
Tree	load-balancing
Configurable	True
Platforms	Supported on all platforms

logging

Description	System logging provides the interface to syslog services to setup output entities on a selection of log sources.
Context	system logging
Tree	logging
Configurable	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	• all • audit • auth • authpriv • console • cron • daemon • ftp • kern • lpr • mail • news • ntp • 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
- warning
- notice
- informational
- debug

Configurable True

Platforms Supported on all platforms

match-exact *keyword*

Description	Individually specified severities
Context	system logging buffer buffer-name *string* 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 buffer buffer-name *string* filter *reference*
Tree	filter
Reference	system logging filter filter-name *string*
Configurable	True
Platforms	Supported on all platforms

format *string*

Description	Text format of the output syslog messages, in legacy syslog $template style
Context	system logging buffer buffer-name *string* format *string*
Tree	format
Default	%TIMEGENERATED:::date-rfc3339% %HOSTNAME% %SYSLOGTAG% %MSG:::sp-if-no-1st-sp%%MSG:::drop-last-lf%\n
Configurable	True
Platforms	Supported on all platforms

persist *number*

Description	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.
Context	system logging buffer buffer-name *string* persist *number*
Tree	persist
Range	0 | 60 to 604800
Default	0
Units	seconds
Configurable	True
Platforms	Supported on all platforms

rotate *number*

Description	Number of files to keep in rotation when a maximum file size is reached
Context	system logging buffer buffer-name *string* rotate *number*
Tree	rotate
Default	4
Configurable	True
Platforms	Supported on all platforms

rotations *number*

Description	Number of file rotations occurred
Context	system logging buffer buffer-name *string* rotations *number*
Tree	rotations
Default	0
Configurable	False
Platforms	Supported on all platforms

size *string*

Description	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.

Context system logging buffer buffer-name *string* size *string*

Tree size

Default 10M

Configurable True

Platforms Supported on all platforms

subsystem subsystem-name *keyword*

Description Entity or entities that may produce messages to be captured

Context system logging buffer buffer-name *string* subsystem subsystem-name *keyword*

Tree subsystem

Configurable True

Platforms Supported on all platforms

subsystem-name *keyword*

Description Reference to an available subsystem to source messages from

Context system logging buffer buffer-name *string* subsystem subsystem-name *keyword*

Options

- aaa
- accounting
- acl
- app
- arpnd
- bfd
- bgp
- bridgetable
- chassis
- debug
- dhcp
- ethcfm
- evpn
- fib

- gnmi
- gnsi
- gribi
- grpc
- 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 buffer buffer-name *string* subsystem subsystem-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* subsystem subsystem-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 buffer buffer-name *string* subsystem subsystem-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

console

Description Hardware serial device normally used for bring-up and diagnostics

Context system logging console

Tree console

Configurable True

Platforms Supported on all platforms

facility facility-name *keyword*

Description List of facilities to source messages from

Context system logging console 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 console facility facility-name *keyword*

Options

- all
- audit
- auth
- authpriv
- console
- cron
- daemon
- ftp
- kern
- lpr

- mail
- news
- ntp
- 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*

Description Text format of the output syslog messages, in legacy syslog $template style

Context	system logging console format *string*
Tree	format
Default	%TIMEGENERATED:::date-rfc3339% %HOSTNAME% %SYSLOGTAG% %MSG:::sp-if-no-1st-sp%%MSG:::drop-last-lf%\n
Configurable	True
Platforms	Supported on all platforms

subsystem subsystem-name *keyword*

Description	Entity or entities that may produce messages to be captured
Context	system logging console subsystem subsystem-name *keyword*
Tree	subsystem
Configurable	True
Platforms	Supported on all platforms

subsystem-name *keyword*

Description	Reference to an available subsystem to source messages from
Context	system logging console subsystem subsystem-name *keyword*
Options	• aaa • accounting • acl • app • arpnd • bfd • bgp • bridgetable • chassis • debug • dhcp • ethcfm • evpn • fib • gnmi • gnsi • gribi

- grpc
- 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

Tree	priority
Configurable	True
Platforms	Supported on all platforms

match-above *keyword*

Description	At a given severity and above
Context	system logging console subsystem subsystem-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 subsystem subsystem-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

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*

Description Name of a Linux syslog facility

Context system logging file file-name *string* facility facility-name *keyword*

Options

- all
- audit
- auth
- authpriv
- console
- cron
- daemon
- ftp
- kern
- lpr
- mail
- news
- ntp
- 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 file file-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 file file-name *string* 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 file file-name *string* 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 file file-name *string* filter *reference*
Tree	filter
Reference	system logging filter filter-name *string*
Configurable	True
Platforms	Supported on all platforms

format *string*

Description	Text format of the output syslog messages, in legacy syslog $template style
Context	system logging file file-name *string* format *string*
Tree	format
Default	%TIMEGENERATED:::date-rfc3339% %HOSTNAME% %SYSLOGTAG% %MSG:::sp-if-no-1st-sp%%MSG:::drop-last-lf%\n
Configurable	True
Platforms	Supported on all platforms

rotate *number*

Description	Number of files to keep in rotation when a maximum file size is reached
Context	system logging file file-name *string* rotate *number*
Tree	rotate
Default	4
Configurable	True
Platforms	Supported on all platforms

rotations *number*

Description	Number of file rotations occurred
Context	system logging file file-name *string* rotations *number*
Tree	rotations
Default	0
Configurable	False

Platforms	Supported on all platforms

size *string*

Description	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.
Context	system logging file file-name *string* size *string*
Tree	size
Default	10M
Configurable	True
Platforms	Supported on all platforms

subsystem subsystem-name *keyword*

Description	Entity or entities that may produce messages to be captured
Context	system logging file file-name *string* subsystem subsystem-name *keyword*
Tree	subsystem
Configurable	True
Platforms	Supported on all platforms

subsystem-name *keyword*

Description	Reference to an available subsystem to source messages from
Context	system logging file file-name *string* subsystem subsystem-name *keyword*
Options	• aaa • accounting • acl • app • arpnd • bfd • bgp • bridgetable • chassis • debug

- dhcp
- ethcfm
- evpn
- fib
- gnmi
- gnsi
- gribi
- grpc
- 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 file file-name *string* subsystem subsystem-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 file file-name *string* subsystem subsystem-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 file file-name *string* subsystem subsystem-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 filter-name *string*

Description Describes a set of critieria that captured messages are required to fulfill

Context system logging filter filter-name *string*

Tree filter

Configurable True

Platforms Supported on all platforms

filter-name *string*

Description Name of the filter

Context system logging filter filter-name *string*

Configurable True

Platforms Supported on all platforms

contains *string*

Description Text to find in the MSG property of messages to capture from the stream This is slower than prefix.

Context system logging filter filter-name *string* contains *string*

Tree contains

Configurable True

Platforms Supported on all platforms

facility facility-name *keyword*

Description List of facilities to source messages from

Context	system logging filter filter-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 filter filter-name *string* facility facility-name *keyword*
Options	• all • audit • auth • authpriv • console • cron • daemon • ftp • kern • lpr • mail • news • ntp • 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*

Description At a given severity and above

Context system logging filter filter-name *string* 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 filter filter-name *string* 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

prefix *string*

Description Text to be present at the beginning of the MSG property of a message This is a fast lookup.

Context system logging filter filter-name *string* prefix *string*

Tree prefix

Configurable True

Platforms Supported on all platforms

regex *string*

Description Extended regular expression to search in the MSG property of messages

Context system logging filter filter-name *string* regex *string*

Tree regex

Configurable True

Platforms Supported on all platforms

tag *string*

Description Text to be searched in the SYSLOGTAG property of messages Usually a program name or part of it.

Context system logging filter filter-name *string* tag *string*

Tree tag

Configurable True

Platforms Supported on all platforms

network-instance *reference*

Description 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.

Context	system logging network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

remote-server host *(ipv4-address | ipv6-address | domain-name)*

Description	List of output remote syslog servers
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)*
Tree	remote-server
Configurable	True
Platforms	Supported on all platforms

host *(ipv4-address | ipv6-address | domain-name)*

Description	Domain or IP address of a remote syslog server destination
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)*
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms

facility facility-name *keyword*

Description	List of facilities to source messages from
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)* 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 remote-server host *(ipv4-address | ipv6-address | domain-name)* facility facility-name *keyword*

Options

- all
- audit
- auth
- authpriv
- console
- cron
- daemon
- ftp
- kern
- lpr
- mail
- news
- ntp
- 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 remote-server host *(ipv4-address | ipv6-address | domain-name)* 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 remote-server host *(ipv4-address | ipv6-address | domain-name)* 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 remote-server host *(ipv4-address | ipv6-address | domain-name)* 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 remote-server host *(ipv4-address | ipv6-address | domain-name)* filter *reference*
Tree	filter
Reference	system logging filter filter-name *string*
Configurable	True
Platforms	Supported on all platforms

remote-port *number*

Description	Transport port for syslog to use for messages sent to a remote server
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)* remote-port *number*
Tree	remote-port
Default	514
Configurable	True
Platforms	Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description	Source address for syslog to use for messages sent to a remote server If no source address is provided, then packets will be sent to the remote server using the source address indicated by the routing table.
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)* source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	True
Platforms	Supported on all platforms

subsystem subsystem-name *keyword*

Description	Entity or entities that may produce messages to be captured
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)* subsystem subsystem-name *keyword*

Tree	subsystem
Configurable	True
Platforms	Supported on all platforms

subsystem-name *keyword*

Description	Reference to an available subsystem to source messages from
Context	system logging remote-server host *(ipv4-address | ipv6-address | domain-name)* subsystem subsystem-name *keyword*
Options	• aaa • accounting • acl • app • arpnd • bfd • bgp • bridgetable • chassis • debug • dhcp • ethcfm • evpn • fib • gnmi • gnsi • gribi • grpc • 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

Tree priority

Configurable True

Platforms Supported on all platforms

match-above *keyword*

Description At a given severity and above

Context system logging remote-server host *(ipv4-address | ipv6-address | domain-name)* subsystem subsystem-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 remote-server host *(ipv4-address | ipv6-address | domain-name)* subsystem subsystem-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

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

- all
- audit
- auth
- authpriv
- console
- cron
- daemon
- ftp
- kern
- lpr
- mail
- news
- ntp
- syslog
- user
- uucp
- local0
- local1
- local2
- local3
- local4
- local5
- local6
- local7
- auth
- authpriv

- cron
- daemon
- ftp
- kern
- lpr
- mail
- news
- ntp
- syslog
- user
- uucp
- local0
- local1
- local2
- local3
- local4
- local5
- local6
- local7

Configurable True

Platforms Supported on all platforms

use-fqdn *boolean*

Description Use the FQDN instead of only the hostname for logging messages

Context system logging use-fqdn *boolean*

Tree use-fqdn

Default false

Configurable True

Platforms Supported on all platforms

maintenance

Description Top-level container for Maintenance Mode configuration

Context system maintenance

Tree maintenance

Configurable	True
Platforms	Supported on all platforms

group name *string*

Description	List of user-configured maintenance groups
Context	system maintenance group name *string*
Tree	group
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the maintenance group.
Context	system maintenance group name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

maintenance-mode

Description	Container with options for activating and deactivating maintenance mode for this group
Context	system maintenance group name *string* maintenance-mode
Tree	maintenance-mode
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enable or disable maintenance mode for this group 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. While a maintenance group is in maintenance mode it is not possible to modify the BGP configuration of its members.

Context	system maintenance group name *string* maintenance-mode admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

maintenance-profile *reference*

Description	Leaf reference to /system/maintenance/profile/name
Context	system maintenance group name *string* maintenance-profile *reference*
Tree	maintenance-profile
Reference	system maintenance profile name *string*
Configurable	True
Platforms	Supported on all platforms

members

Description	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.
Context	system maintenance group name *string* members
Tree	members
Configurable	True
Platforms	Supported on all platforms

bgp

Description	Container for specifying the BGP members of the maintenance group
Context	system maintenance group name *string* members bgp
Tree	bgp
Configurable	True
Platforms	Supported on all platforms

network-instance name *reference*

Description	List of network instances with one or more peers to be placed in maintenance mode
Context	system maintenance group name *string* members bgp network-instance name *reference*
Tree	network-instance
Configurable	True
Platforms	Supported on all platforms

name *reference*

Description	A unique name identifying the network instance
Context	system maintenance group name *string* members bgp network-instance name *reference*
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

neighbor *reference*

Description	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. 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.
Context	system maintenance group name *string* members bgp network-instance name *reference* neighbor *reference*
Tree	neighbor
Reference	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*
Configurable	True
Platforms	Supported on all platforms

peer-group *reference*

Description	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.

Context system maintenance group name *string* members bgp network-instance name *reference* peer-group *reference*

Tree peer-group

Reference network-instance name *string* protocols bgp group group-name *string*

Configurable True

Platforms Supported on all platforms

profile name *string*

Description Enter the profile list instance

Context system maintenance profile name *string*

Tree profile

Configurable True

Platforms Supported on all platforms

name *string*

Description Name of the maintenance profile

Context system maintenance profile name *string*

String Length 1 to 255

Configurable True

Platforms Supported on all platforms

bgp

Description Container for BGP policies used to achieve traffic draining

Context system maintenance profile name *string* bgp

Tree bgp

Configurable True

Platforms Supported on all platforms

export-policy *reference*

Description	A reference to the pre-configured routing policy to apply as an additional/final export policy on BGP sessions in the maintenance group
Context	system maintenance profile name *string* bgp export-policy *reference*
Tree	export-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

import-policy *reference*

Description	A reference to the pre-configured routing policy to apply as an additional/final import policy on BGP sessions in the maintenance group
Context	system maintenance profile name *string* bgp import-policy *reference*
Tree	import-policy
Reference	routing-policy policy name *string*
Configurable	True
Platforms	Supported on all platforms

management

Description	Enclosing container for options relating to management server
Context	system management
Tree	management
Configurable	True
Platforms	Supported on all platforms

openconfig

Description	Top-level container for options relating to OpenConfig
Context	system management openconfig
Tree	openconfig
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description Enable or disable the OpenConfig management server

This will disable OpenConfig throughout the system, and bring any gRPC servers that use it operationally down.

Context system management openconfig admin-state *keyword*

Tree admin-state

Options

- enable
- disable

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description Indicates the operational state of the OpenConfig management server

Context system management openconfig 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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

mirroring

Description Top level container for configuration and operational state for mirroring

Context system mirroring

Tree mirroring

Configurable True

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

mirroring-instance name *string*

Description Mirroring instances configured on the local system

Context system mirroring mirroring-instance name *string*

Tree mirroring-instance

Configurable True

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

Max. Elements 8

name *string*

Description A unique name identifying the mirroring instance

Context system mirroring mirroring-instance name *string*

String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

admin-state *keyword*

Description	This leaf contains the configured, desired state of the mirroring instance.
Context	system mirroring mirroring-instance name *string* admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

description *string*

Description	A user-entered description of this mirroring instance.
Context	system mirroring mirroring-instance name *string* description *string*
Tree	description
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

mirror-destination

Description	Configure mirror destination
Context	system mirroring mirroring-instance name *string* mirror-destination
Tree	mirror-destination
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

local *string*

Description	subinterface of type local-mirror-dest used as local mirror destination
Context	system mirroring mirroring-instance name *string* mirror-destination local *string*
Tree	local
String Length	5 to 25
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

remote

Description	Enable the remote context
Context	system mirroring mirroring-instance name *string* mirror-destination remote
Tree	remote
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

encap *keyword*

Description	Enter the encap context
Context	system mirroring mirroring-instance name *string* mirror-destination remote encap *keyword*
Tree	encap
Options	• l2ogre • l3ogre
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

network-instance *reference*

Description	network instance to intitiate remote mirror tunnel
Context	system mirroring mirroring-instance name *string* mirror-destination remote network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

tunnel-end-points

Description	Enter the tunnel-end-points context
Context	system mirroring mirroring-instance name *string* mirror-destination remote tunnel-end-points
Tree	tunnel-end-points
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

admin-state *keyword*

Description	This leaf contains the configured, desired state of the remote mirror tunnel
Context	system mirroring mirroring-instance name *string* mirror-destination remote tunnel-end-points admin-state *keyword*
Tree	admin-state
Default	enable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

dst-ipv4 *string*

Description	remote mirror tunnel destination endpoint IPv4 address
Context	system mirroring mirroring-instance name *string* mirror-destination remote tunnel-end-points dst-ipv4 *string*
Tree	dst-ipv4
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

dst-ipv6 *string*

Description remote mirror tunnel destination endpoint IPv6 adress

Context system mirroring mirroring-instance name *string* mirror-destination remote tunnel-end-points dst-ipv6 *string*

Tree dst-ipv6

Configurable True

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

oper-state *keyword*

Description This leaf contains the operational state of the remote mirror tunnel

Context system mirroring mirroring-instance name *string* mirror-destination remote tunnel-end-points 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.

Configurable False

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

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

src-ipv6 *string*

Description remote mirror tunnel source endpoint IPv6 address

Context system mirroring mirroring-instance name *string* mirror-destination remote tunnel-end-points src-ipv6 *string*

Tree src-ipv6

Configurable True

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

statistics

Description Enter the statistics context

Context system mirroring mirroring-instance name *string* mirror-destination statistics

Tree statistics

Configurable	False
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

egress-mirrored-octets *number*

Description	The number of egress mirrored octets
Context	system mirroring mirroring-instance name *string* mirror-destination statistics egress-mirrored-octets *number*
Tree	egress-mirrored-octets
Default	0
Units	bytes
Configurable	False
Platforms	7250 IXR-10e, 7250 IXR-6e

egress-mirrored-packets *number*

Description	The number of egress mirrored packets
Context	system mirroring mirroring-instance name *string* mirror-destination statistics egress-mirrored-packets *number*
Tree	egress-mirrored-packets
Default	0
Units	packets
Configurable	False
Platforms	7220 IXR-D4, 7220 IXR-D5

ingress-mirrored-octets *number*

Description	The number of ingress mirrored octets
Context	system mirroring mirroring-instance name *string* mirror-destination statistics ingress-mirrored-octets *number*
Tree	ingress-mirrored-octets
Default	0
Units	bytes
Configurable	False
Platforms	7250 IXR-10e, 7250 IXR-6e

ingress-mirrored-packets *number*

Description	The number of ingress mirrored packets
Context	system mirroring mirroring-instance name *string* mirror-destination statistics ingress-mirrored-packets *number*
Tree	ingress-mirrored-packets
Default	0
Units	packets
Configurable	False
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

mirror-source

Description	Configure mirror source(s)
Context	system mirroring mirroring-instance name *string* mirror-source
Tree	mirror-source
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

acl

Description	Enter the acl context
Context	system mirroring mirroring-instance name *string* mirror-source acl
Tree	acl
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

ipv4-filter name *reference*

Description	Enter the ipv4-filter list instance
Context	system mirroring mirroring-instance name *string* mirror-source acl ipv4-filter name *reference*
Tree	ipv4-filter
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

name *reference*

Description	Enter the name context
Context	system mirroring mirroring-instance name *string* mirror-source acl ipv4-filter name *reference*
Reference	acl ipv4-filter name *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

entry sequence-id *reference*

Description	Add a list entry for entry
Context	system mirroring mirroring-instance name *string* mirror-source acl ipv4-filter name *reference* entry sequence-id *reference*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

sequence-id *reference*

Description	Enter the sequence-id context
Context	system mirroring mirroring-instance name *string* mirror-source acl ipv4-filter name *reference* entry sequence-id *reference*
Reference	acl ipv4-filter name *string* entry sequence-id *number*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

ipv6-filter name *reference*

Description	Enter the ipv6-filter list instance
Context	system mirroring mirroring-instance name *string* mirror-source acl ipv6-filter name *reference*
Tree	ipv6-filter
Configurable	True

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

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

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

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

interface name *string*

Description	List of interfaces used as mirror source
Context	system mirroring mirroring-instance name *string* mirror-source interface name *string*

Tree	interface
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

name *string*

Description	Enter the name context
Context	system mirroring mirroring-instance name *string* mirror-source interface name *string*
String Length	3 to 20
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

direction *keyword*

Description	The direction of traffic to be mirrored
Context	system mirroring mirroring-instance name *string* mirror-source interface name *string* direction *keyword*
Tree	direction
Default	egress-only
Options	• ingress-only • egress-only • ingress-egress
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

subinterface name *string*

Description	List of subinterfaces used as mirror source
Context	system mirroring mirroring-instance name *string* mirror-source subinterface name *string*
Tree	subinterface
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

name *string*

Description	Enter the name context
Context	system mirroring mirroring-instance name *string* mirror-source subinterface name *string*
String Length	5 to 25
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

direction *keyword*

Description	The direction of traffic to be mirrored
Context	system mirroring mirroring-instance name *string* mirror-source subinterface name *string* direction *keyword*
Tree	direction
Default	egress-only
Options	• ingress-only • egress-only • ingress-egress
Configurable	True
Platforms	Supported on all platforms except 7250 IXR-6e/10e

oper-down-reason *keyword*

Description	The reason for the mirroring instance being operational down
Context	system mirroring mirroring-instance name *string* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• mirror-inst-admin-down • no-mirror-source • local-mirror-subif-down • remote-mirror-dst-unreachable
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

oper-state *keyword*

Description This leaf contains the operational state of the mirroring instance.

Context system mirroring mirroring-instance name *string* 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.

Configurable False

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

mpls

Description	Container for system wide MPLS label management
Context	system mpls
Tree	mpls
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

label-ranges

Description	Container for managing MPLS label blocks
Context	system mpls label-ranges
Tree	label-ranges
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	The name of the dynamic label block
Context	system mpls label-ranges dynamic name *string*

String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allocated-labels *number*

Description	The number of labels that are currently used in this block
Context	system mpls label-ranges dynamic name *string* allocated-labels *number*
Tree	allocated-labels
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-label *number*

Description	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
Context	system mpls label-ranges dynamic name *string* end-label *number*
Tree	end-label
Range	16 to 1048575
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

free-labels *number*

Description	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
Context	system mpls label-ranges dynamic name *string* free-labels *number*
Tree	free-labels
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start-label *number*

Description	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

Context system mpls label-ranges dynamic name *string* start-label *number*

Tree start-label

Range 16 to 1048575

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description The status of the MPLS label block

Context system mpls label-ranges dynamic name *string* status *keyword*

Tree status

Options

- ready

  The label block is ready to use.
- not-ready

  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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

user index *number*

Description The list of protocols that are using this label block. If the block is not shared there will only be 1 user

Context system mpls label-ranges dynamic name *string* user index *number*

Tree user

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

index *number*

Description Index number used to enumerate the clients

Context system mpls label-ranges dynamic name *string* user index *number*

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

owner *identityref*

Description The protocol or service associated with the client

Context system mpls label-ranges dynamic name *string* user index *number* owner *identityref*

Tree owner

Options

- bgp

  The BGP/MP-BGP protocol carrying labels.
- ldp

  The label distribution protocol (LDP).
- sr-isis

  The IS-IS protocol with segment routing extensions
- 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

static name *string*

Description List of static label blocks

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.

Context	system mpls label-ranges static name *string*
Tree	static
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	The name of the static label block
Context	system mpls label-ranges static name *string*
String Length	1 to 255
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

allocated-labels *number*

Description	The number of labels that are currently used in this block
Context	system mpls label-ranges static name *string* allocated-labels *number*
Tree	allocated-labels
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

end-label *number*

Description	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
Context	system mpls label-ranges static name *string* end-label *number*
Tree	end-label
Range	16 to 1048575
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

free-labels *number*

Description	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

Context system mpls label-ranges static name *string* free-labels *number*

Tree free-labels

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

shared *boolean*

Description When set to true, the label block can be shared by multiple protoccols. When set to false, the label block is dedicated to one protocol.

Context system mpls label-ranges static name *string* shared *boolean*

Tree shared

Default true

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start-label *number*

Description 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

Context system mpls label-ranges static name *string* start-label *number*

Tree start-label

Range 16 to 1048575

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

status *keyword*

Description The status of the MPLS label block

Context system mpls label-ranges static name *string* status *keyword*

Tree status

Options

- ready

  The label block is ready to use.
- not-ready

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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

user index *number*

Description The list of protocols that are using this label block. If the block is not shared there will only be 1 user

Context system mpls label-ranges static name *string* user index *number*

Tree user

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

index *number*

Description Index number used to enumerate the clients

Context system mpls label-ranges static name *string* user index *number*

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

owner *identityref*

Description The protocol or service associated with the client

Context system mpls label-ranges static name *string* user index *number* owner *identityref*

Tree owner

Options

- bgp

  The BGP/MP-BGP protocol carrying labels.

- ldp

  The label distribution protocol (LDP).

- sr-isis

  The IS-IS protocol with segment routing extensions

- 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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

services

Description Container for system wide Services MPLS label management

Context system mpls services

Tree services

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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.

Context system mtu default-ip-mtu *number*

Tree default-ip-mtu

Range 1280 to 9486

Default 1500

Configurable True

Platforms Supported on all platforms

default-l2-mtu *number*

Description 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.

Context system mtu default-l2-mtu *number*

Tree default-l2-mtu

Range 1500 to 9500

Default 9232

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

default-mpls-mtu *number*

Description System default MPLS MTU in bytes including the size of the transmitted label stack.

Context system mtu default-mpls-mtu *number*

Tree default-mpls-mtu

Range 1284 to 9496

Default 1508

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

default-port-mtu *number*

Description	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.
Context	system mtu default-port-mtu *number*
Tree	default-port-mtu
Range	1500 to 9500
Default	9232
Configurable	True
Platforms	Supported on all platforms

min-path-mtu *number*

Description	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.
Context	system mtu min-path-mtu *number*
Tree	min-path-mtu
Range	552 to 9232
Default	552
Configurable	True
Platforms	Supported on all platforms

multicast

Description	system multicast information
Context	system multicast
Tree	multicast
Configurable	True
Platforms	Supported on all platforms

multicast-ids

Description	system multicast id information

Context	system multicast multicast-ids
Tree	multicast-ids
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	system multicast multicast-ids statistics
Tree	statistics
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 current-usage *number*
Tree	current-usage
Default	0
Configurable	False
Platforms	Supported on all platforms

maximum-ids *number*

Description	Maximum number of multicast ids available in the system.
Context	system multicast multicast-ids statistics maximum-ids *number*
Tree	maximum-ids
Configurable	False
Platforms	Supported on all platforms

multicast-id-user-type user *keyword*

Description	the type of the user of multicast id in the system.
Context	system multicast multicast-ids statistics multicast-id-user-type user *keyword*
Tree	multicast-id-user-type
Configurable	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*

Description	The total number of multicast ids pending allocation on the system.
Context	system multicast multicast-ids statistics total-pending *number*
Tree	total-pending
Default	0
Configurable	False
Platforms	Supported on all platforms

multicast-forwarding-information-base

Description	System Multicast Forwarding Information Base table
Context	system multicast-forwarding-information-base
Tree	multicast-forwarding-information-base
Configurable	False
Platforms	Supported on all platforms

multicast-route network-instance *reference* source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*

Description	List of all the MFIB entries in the system
Context	system multicast-forwarding-information-base multicast-route network-instance *reference* source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*
Tree	multicast-route
Configurable	False
Platforms	Supported on all platforms

network-instance *reference*

Description	Indicates that the MFIB entry is associated to this network instance
Context	system multicast-forwarding-information-base multicast-route network-instance *reference* source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*
Reference	network-instance name *string*
Configurable	False
Platforms	Supported on all platforms

source *(ipv4-address | ipv6-address)*

Description	Source IP address of the MFIB entry
Context	system multicast-forwarding-information-base multicast-route network-instance *reference* source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*
Configurable	False
Platforms	Supported on all platforms

group *(ipv4-address | ipv6-address)*

Description	Multicast group address of the MFIB entry
Context	system multicast-forwarding-information-base multicast-route network-instance *reference* source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)*
Configurable	False
Platforms	Supported on all platforms

last-update *string*

Description	Last update of this MFIB entry
Context	system multicast-forwarding-information-base multicast-route network-instance *reference* source *(ipv4-address | ipv6-address)* group *(ipv4-address | ipv6-address)* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	Supported on all platforms

line-card-replication-index *number*

Description	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.

Context	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*
Tree	line-card-replication-index
Default	0
Configurable	False
Platforms	Supported on all platforms

name

Description	Contains configuration and state related to system naming
Context	system name
Tree	name
Configurable	True
Platforms	Supported on all platforms

domain-name *string*

Description	The system domain name
Context	system name domain-name *string*
Tree	domain-name
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms

host-name *string*

Description	The system host name
Context	system name host-name *string*
Tree	host-name
String Length	1 to 63
Configurable	True
Platforms	Supported on all platforms

network-instance

Description	Enable the network-instance context
Context	system network-instance
Tree	network-instance
Configurable	True
Platforms	Supported on all platforms

protocols

Description	The routing protocols that are enabled for this network-instance.
Context	system network-instance protocols
Tree	protocols
Configurable	True
Platforms	Supported on all platforms

bgp-vpn

Description	Enable the bgp-vpn context
Context	system network-instance protocols bgp-vpn
Tree	bgp-vpn
Configurable	True
Platforms	Supported on all platforms

bgp-instance id *number*

Description	List of bgp-vpn instances configured in the system network-instance. Only one instance allowed in the current release.
Context	system network-instance protocols bgp-vpn bgp-instance id *number*
Tree	bgp-instance
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

id *number*

Description	The index of the bgp-vpn instance

Context	system network-instance protocols bgp-vpn bgp-instance id *number*
Range	1 to 2
Configurable	True
Platforms	Supported on all platforms

oper-down-reason *keyword*

Description	Reason for the system bgp-instance being down
Context	system network-instance protocols bgp-vpn bgp-instance id *number* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• no-loopback-address • no-esi • none • network-instance-oper-down • bad-rd-format
Configurable	False
Platforms	Supported on all platforms

route-distinguisher

Description	Route Distinguisher (RD) of the bgp-vpn instance.
Context	system network-instance protocols bgp-vpn bgp-instance id *number* route-distinguisher
Tree	route-distinguisher
Configurable	True
Platforms	Supported on all platforms

rd *(route-distinguisher-type-0 | route-distinguisher-type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)*

Description	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.
Context	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)*

Tree	rd
Configurable	False
Platforms	Supported on all platforms

route-distinguisher-origin *keyword*

Description	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.
Context	system network-instance protocols bgp-vpn bgp-instance id *number* route-distinguisher route-distinguisher-origin *keyword*
Tree	route-distinguisher-origin
Options	• auto-derived-from-system-ip:0 • none
Configurable	False
Platforms	Supported on all platforms

route-target

Description	Route Target (RT) of the system bgp-vpn instance.
Context	system network-instance 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-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.
Context	system network-instance protocols bgp-vpn bgp-instance id *number* route-target export-route-target-origin *keyword*
Tree	export-route-target-origin
Options	• auto-derived-from-esi-bytes-1-6

- none

Configurable False

Platforms Supported on all platforms

export-rt *(string | string | string | string | string | string | string)*

Description Export Route Target (RT) in the system bgp-vpn instance.

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.

Context system network-instance protocols bgp-vpn bgp-instance id *number* route-target export-rt *(string | string | string | string | string | string | string)*

Tree export-rt

Configurable False

Platforms Supported on all platforms

import-route-target-origin *keyword*

Description Origin of the operational import 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.

Context system network-instance protocols bgp-vpn bgp-instance id *number* route-target import-route-target-origin *keyword*

Tree import-route-target-origin

Options

- auto-derived-from-esi-bytes-1-6
- none

Configurable False

Platforms Supported on all platforms

import-rt *(string | string | string | string | string | string | string)*

Description Import Route Target (RT) in the system bgp-vpn instance.

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 received along with the ES route.
Context	system network-instance protocols bgp-vpn bgp-instance id *number* route-target import-rt *(string | string | string | string | string | string | string)*
Tree	import-rt
Configurable	False
Platforms	Supported on all platforms

evpn

Description	Enable the evpn context
Context	system network-instance protocols evpn
Tree	evpn
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ethernet-segments

Description	Enable the ethernet-segments context
Context	system network-instance protocols evpn ethernet-segments
Tree	ethernet-segments
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

bgp-instance id *reference*

Description	bgp global instances configured in net-instance
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference*
Tree	bgp-instance
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1

id *reference*

Description	Enter the id context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference*
Reference	system network-instance protocols bgp-vpn bgp-instance id *number*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ethernet-segment name *string*

Description	Ethernet Segment configuration and state.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string*
Tree	ethernet-segment
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1024

name *string*

Description	A unique name identifying the ethernet segment.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string*
String Length	1 to 32
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

admin-state *keyword*

Description	Admin state of the ethernet segment
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* admin-state *keyword*
Tree	admin-state
Default	disable

Options
- enable
- disable

Configurable True

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

association

Description Enter the association context

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* association

Tree association

Configurable False

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

network-instance name *string*

Description network instance associated to this ethernet-segment

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* association network-instance name *string*

Tree network-instance

Configurable False

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

name *string*

Description Enter the name context

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* association network-instance name *string*

Configurable False

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

bgp-instance instance *number*

Description	bgp-instance associated to this ethernet-segment
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* association network-instance name *string* bgp-instance instance *number*
Tree	bgp-instance
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

instance *number*

Description	Enter the instance context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* association network-instance name *string* bgp-instance instance *number*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

computed-designated-forwarder-candidates

Description	Enter the computed-designated-forwarder-candidates context
Context	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
Tree	computed-designated-forwarder-candidates
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

designated-forwarder-candidate address *(ipv4-address | ipv6-address)*

Description	designated forwarder candidates for this evi
Context	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)*

Tree	designated-forwarder-candidate
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *(ipv4-address | ipv6-address)*

Description	Enter the address context
Context	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)*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

add-time *string*

Description	The date and time when the designated-forwarder-candidate was added to the designated forwarder candidate list for this evi
Context	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*
Tree	add-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

designated-forwarder *boolean*

Description	Indicates if this designated-forwarder-candidate is the designated-forwarder.
Context	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*
Tree	designated-forwarder

Default	false
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

designated-forwarder-activation-start-time *string*

Description	Indicates the time at which the designated-forwarder activation timer started.
Context	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*
Tree	designated-forwarder-activation-start-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

designated-forwarder-activation-time *number*

Description	Indicates the number of seconds for the activation timer to run, for this node to become the designated forwarder for this bgp instance.
Context	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*
Tree	designated-forwarder-activation-time
Units	seconds
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

designated-forwarder-role-last-change *string*

Description	Indicates the time at which the designated-forwarder role was changed.
Context	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*
Tree	designated-forwarder-role-last-change

String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

autodiscovery-per-ethernet-segment-routes

Description	Enter the autodiscovery-per-ethernet-segment-routes context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* autodiscovery-per-ethernet-segment-routes
Tree	autodiscovery-per-ethernet-segment-routes
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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* autodiscovery-per-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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

esi *string*

Description	The Ethernet Segment Identifier encoded in the NLRI
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* autodiscovery-per-ethernet-segment-routes esi *string*
Tree	esi
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ethernet-tag-id *number*

Description	The 32-bit Ethernet Tag ID encoded in the NLRI. The Ethernet Tag ID identifies a broadcast domain.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* autodiscovery-per-ethernet-segment-routes ethernet-tag-id *number*
Tree	ethernet-tag-id
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* autodiscovery-per-ethernet-segment-routes neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

route-distinguisher *(route-distinguisher-type-0 | route-distinguisher-type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)*

Description	The route distinguisher encoded in the NLRI.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* autodiscovery-per-ethernet-segment-routes route-distinguisher *(route-distinguisher-type-0 | route-distinguisher-type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)*
Tree	route-distinguisher
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vni *number*

Description	The VXLAN Netwpork Identifier

Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* autodiscovery-per-ethernet-segment-routes vni *number*
Tree	vni
Range	0 to 16777215
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

df-election

Description	Enter the df-election context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election
Tree	df-election
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

algorithm

Description	Enter the algorithm context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm
Tree	algorithm
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

manual-alg

Description	Enable the manual-alg context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm manual-alg
Tree	manual-alg
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

primary-evi-range start-evi *number*

Description	evi range for this ethernet-segment
Context	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*
Tree	primary-evi-range
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

start-evi *number*

Description	start of the evi-range for this ethernet-segment
Context	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*
Range	1 to 65535
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

end-evi *number*

Description	end of the evi-range for this ethernet-segment
Context	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*
Tree	end-evi
Range	1 to 65535
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-type *keyword*

Description	Operational Designated Forwarder algorithm type for this ethernet-segment.

Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm oper-type *keyword*
Tree	oper-type
Options	• default • preference • manual
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

preference-alg

Description	Enable the preference-alg context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg
Tree	preference-alg
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

capabilities

Description	Enter the capabilities context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg capabilities
Tree	capabilities
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ac-df *keyword*

Description	Attachment Circuit influenced DF Election.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg capabilities ac-df *keyword*

Tree	ac-df
Default	include
Options	• include • exclude
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

non-revertive *boolean*

Description	Non Revertive mode. If set to true, the 'Don't Preempt Me' capability is advertised in the ES route.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg capabilities non-revertive *boolean*
Tree	non-revertive
Default	false
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-do-not-prempt *boolean*

Description	Operational do-not-preempt value
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg oper-do-not-prempt *boolean*
Tree	oper-do-not-prempt
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-preference-value *number*

Description	Operational Preference value
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg oper-preference-value *number*

Tree	oper-preference-value
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

preference-value *number*

Description	Preference that is used to elect the designated forwarder
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm preference-alg preference-value *number*
Tree	preference-value
Range	0 to 65535
Default	32767
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	Designated Forwarder algorithm type for this ethernet-segment.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election algorithm type *keyword*
Tree	type
Default	default
Options	• default • preference • manual
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

interface-standby-signaling-on-non-df

Description	Enable the interface-standby-signaling-on-non-df context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election interface-standby-signaling-on-non-df

Tree	interface-standby-signaling-on-non-df
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

timers

Description	Enter the timers context
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election timers
Tree	timers
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

activation-timer *number*

Description	Remaining activation timer per Ethernet segment
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* df-election timers activation-timer *number*
Tree	activation-timer
Range	0 to 100
Units	seconds
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

esi *string*

Description	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.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* esi *string*
Tree	esi
Configurable	True

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

esi-label *number*

Description	The esi label allocated for this ethernet-segment. The esi-label is advertised by the EVPN Auto-Discovery-Ethernet-Segment Advertisement routes and it is expected on received EVPN packets that were generated as multicast packets from this ethernet-segments peers.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* esi-label *number*
Tree	esi-label
Range	16 to 1048575
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	If the route was learned from a BGP neighbor, this is the IPv4 or IPv6 address of that neighbor.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* ethernet-segment-routes neighbor *(ipv4-address-with-zone | ipv6-address-with-zone)*
Tree	neighbor
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

originating-router *(ipv4-address | ipv6-address)*

Description	The IPv4 or IPv6 address of the originating router
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* ethernet-segment-routes originating-router *(ipv4-address | ipv6-address)*
Tree	originating-router
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

route-distinguisher *(route-distinguisher-type-0 | route-distinguisher-type-1 | route-distinguisher-type-2 | route-distinguisher-type-2b)*

Description	The route distinguisher encoded in the NLRI.
Context	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)*

Tree route-distinguisher

Configurable False

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

interface ethernet-interface *reference*

Description Add a list entry for interface

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* interface ethernet-interface *reference*

Tree interface

Configurable True

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

Max. Elements 1

ethernet-interface *reference*

Description Interface associated with the ethernet segment.

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* interface ethernet-interface *reference*

Reference interface name *string*

Configurable True

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

multi-homing-mode *keyword*

Description 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'.

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* multi-homing-mode *keyword*

Tree	multi-homing-mode
Default	all-active
Options	• all-active • single-active
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

next-hop l3-next-hop *(ipv4-address | ipv6-address)*

Description	Enter the next-hop list instance
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* next-hop l3-next-hop *(ipv4-address | ipv6-address)*
Tree	next-hop
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1

l3-next-hop *(ipv4-address | ipv6-address)*

Description	Layer-3 next-hop associated with the ethernet segment.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* next-hop l3-next-hop *(ipv4-address | ipv6-address)*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

evi start *number*

Description	evi range for this ethernet-segment association
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* next-hop l3-next-hop *(ipv4-address | ipv6-address)* evi start *number*
Tree	evi
Configurable	True

Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	1

start *number*

Description	start of the evi-range for this ethernet-segment
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* next-hop l3-next-hop *(ipv4-address | ipv6-address)* evi start *number*
Range	1 to 65535
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-down-reason *keyword*

Description	The reason for the ethernet-segment being down in the bgp-instance
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* oper-down-reason *keyword*
Tree	oper-down-reason
Options	• admin-disabled • no-nexthop-address • no-originating-address • no-associated-interface • associated-interface-oper-down • no-esi • no-esi-label
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

oper-esi *string*

Description	The operational Ethernet Segment Identifier used in the ethernet segment.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* oper-esi *string*
Tree	oper-esi

Configurable False

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

oper-multi-homing-mode *keyword*

Description 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'.

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* oper-multi-homing-mode *keyword*

Tree oper-multi-homing-mode

Options

- all-active
- single-active

Configurable False

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

oper-state *keyword*

Description This leaf contains the operational state of ethernet segment.

Context system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* 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.

Configurable False

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

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

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

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*
Tree	originating-ip
Default	use-system-ipv4-address
Options	• use-system-ipv4-address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

next-hop *keyword*

Description	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.
Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* routes next-hop *keyword*
Tree	next-hop
Default	use-system-ipv4-address
Options	• use-system-ipv4-address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	Ethernet Segment type.

Context	system network-instance protocols evpn ethernet-segments bgp-instance id *reference* ethernet-segment name *string* type *keyword*
Tree	type
Default	none
Options	• none • virtual
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

timers

Description	Enter the timers context
Context	system network-instance protocols evpn ethernet-segments timers
Tree	timers
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

activation-timer *number*

Description	Enter the activation-timer context
Context	system network-instance protocols evpn ethernet-segments timers activation-timer *number*
Tree	activation-timer
Range	0 to 100
Default	3
Units	seconds
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

boot-remaining-time *number*

Description	Indicates the number of seconds remaining for the boot timer to expire.
Context	system network-instance protocols evpn ethernet-segments timers boot-remaining-time *number*

Tree	boot-remaining-time
Units	seconds
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

boot-start-time *string*

Description	Indicates the time at which the boot timer started.
Context	system network-instance protocols evpn ethernet-segments timers boot-start-time *string*
Tree	boot-start-time
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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*

Description	Reference to a configured network-instance
Context	system ntp network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

oper-state *keyword*

Description	Details the operational state of the NTP client
Context	system ntp 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.

Configurable False

Platforms Supported on all platforms

server address *(ipv4-address | ipv6-address | domain-name)*

Description List of NTP servers to use for system clock synchronization

Context system ntp server address *(ipv4-address | ipv6-address | domain-name)*

Tree server

Configurable True

Platforms Supported on all platforms

address *(ipv4-address | ipv6-address | domain-name)*

Description Domain or IP address of the NTP server

IP address may be either IPv4 or IPv6.

Domain resolution requires working DNS configuration in the same network-instance.

Context system ntp server address *(ipv4-address | ipv6-address | domain-name)*

String Length 1 to 253

Configurable True

Platforms Supported on all platforms

iburst *boolean*

Description Indicates whether this server should enable burst synchronization or not iburst, 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

Context system ntp server address *(ipv4-address | ipv6-address | domain-name)* iburst *boolean*

Tree iburst

Default false

Configurable True

Platforms Supported on all platforms

jitter *number*

Description Measurement of the variance in latency on the network

Context system ntp server address *(ipv4-address | ipv6-address | domain-name)* jitter *number*

Tree jitter

Units milliseconds

Configurable False

Platforms Supported on all platforms

offset *number*

Description Estimate of the current time offset from the peer This is the time difference between the local and reference clock.

Context system ntp server address *(ipv4-address | ipv6-address | domain-name)* offset *number*

Tree offset

Units	microseconds
Configurable	False
Platforms	Supported on all platforms

poll-interval *number*

Description	Polling interval of the peer
Context	system ntp server address *(ipv4-address | ipv6-address | domain-name)* poll-interval *number*
Tree	poll-interval
Range	16 to 3600
Units	seconds
Configurable	False
Platforms	Supported on all platforms

prefer *boolean*

Description	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
Context	system ntp server address *(ipv4-address | ipv6-address | domain-name)* prefer *boolean*
Tree	prefer
Default	false
Configurable	True
Platforms	Supported on all platforms

root-delay *number*

Description	The round-trip delay to the server
Context	system ntp server address *(ipv4-address | ipv6-address | domain-name)* root-delay *number*
Tree	root-delay
Units	milliseconds
Configurable	False
Platforms	Supported on all platforms

root-dispersion *number*

Description	Dispersion (epsilon) represents the maximum error inherent in the measurement
Context	system ntp server address *(ipv4-address | ipv6-address | domain-name)* root-dispersion *number*
Tree	root-dispersion
Units	milliseconds
Configurable	False
Platforms	Supported on all platforms

stratum *number*

Description	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
Context	system ntp server address *(ipv4-address | ipv6-address | domain-name)* stratum *number*
Tree	stratum
Configurable	False
Platforms	Supported on all platforms

source-address *(ipv4-address \| ipv6-address)*

Description	Source address for NTP to use for messages sent to a remote server
Context	system ntp source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	True
Platforms	Supported on all platforms

synchronized *(ipv4-address \| ipv6-address \| domain-name \| string)*

Description	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
Context	system ntp synchronized *(ipv4-address | ipv6-address | domain-name | string)*

Tree	synchronized
String Length	1 to 253
Configurable	False
Platforms	Supported on all platforms

p4rt-server

Description	Configures the P4Runtime service
Context	system p4rt-server
Tree	p4rt-server
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Globally enable or disable the P4Runtime service Disabling this will disable all P4Runtime sockets in all configured network-instances (including unix sockets).
Context	system p4rt-server admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

client id *number*

Description	List of active P4Runtime client sessions
Context	system p4rt-server client id *number*
Tree	client
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	System generated ID for for the client
Context	system p4rt-server client id *number*
Range	0 to 4294967295
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

election-id *string*

Description	Election ID of this client
Context	system p4rt-server client id *number* election-id *string*
Tree	election-id
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

forwarding-complex

Description	Enter the forwarding-complex context
Context	system p4rt-server client id *number* forwarding-complex
Tree	forwarding-complex
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	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.
Context	system p4rt-server client id *number* forwarding-complex id *number*
Tree	id
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

location *string*

Description	The normalized location for this forwarding-complex This is the slot number and complex number seperated by a '/', 0 indexed. For example '1/0', or '1/1' representing two forwarding complexes on slot 1.
Context	system p4rt-server client id *number* forwarding-complex location *string*
Tree	location
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

primary *boolean*

Description	Indicates if this client is the primary for the specified forwarding complex Only a single primary per forwarding complex is supported
Context	system p4rt-server client id *number* primary *boolean*
Tree	primary
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-host *(ipv4-address | ipv6-address)*

Description	Remote host of the client
Context	system p4rt-server client id *number* remote-host *(ipv4-address | ipv6-address)*
Tree	remote-host
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

remote-port *number*

Description	Remote port of the client
Context	system p4rt-server client id *number* remote-port *number*
Tree	remote-port
Range	0 to 65535
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

start-time *string*

Description	Time the client first connected
Context	system p4rt-server client id *number* start-time *string*
Tree	start-time
String Length	20 to 32
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

user *string*

Description	Authenticated username for the client
Context	system p4rt-server client id *number* user *string*
Tree	user
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

user-agent *string*

Description	User agent used for by the client
Context	system p4rt-server client id *number* user-agent *string*
Tree	user-agent
Configurable	False
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

network-instance name *reference*

Description	List of network instances to run a P4Runtime socket in
Context	system p4rt-server network-instance name *reference*
Tree	network-instance
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *reference*

Description	Reference to a configured network instance

Context	system p4rt-server network-instance name *reference*
Reference	network-instance name *string*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description	Administratively enable or disable the P4Runtime service
Context	system p4rt-server network-instance name *reference* admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description	Details if the P4Runtime service is operationally available
Context	system p4rt-server 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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

use-authentication *boolean*

Description	Enable or disable the use of username/password authentication for every P4Runtime RPC request
Context	system p4rt-server network-instance name *reference* use-authentication *boolean*
Tree	use-authentication
Default	true
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

rate-limit *number*

Description	Set a limit on the number of connection attempts per minute
Context	system p4rt-server rate-limit *number*
Tree	rate-limit
Range	0 to 65535
Default	60
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session-limit *number*

Description	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.
Context	system p4rt-server session-limit *number*
Tree	session-limit
Range	0 to 65535
Default	20
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

timeout *number*

Description	Set the idle timeout in seconds on P4Runtime clients
Context	system p4rt-server timeout *number*
Tree	timeout
Range	0 to 65535
Default	7200
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trace-options *keyword*

Description	P4Runtime trace options
Context	system p4rt-server trace-options *keyword*
Tree	trace-options
Options	• request • response • common • grpc
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unix-socket

Description Top-level container for configuration and state related to unix sockets

Context system p4rt-server unix-socket

Tree unix-socket

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

admin-state *keyword*

Description Administratively enable or disable the P4Runtime service

Context system p4rt-server unix-socket admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

oper-state *keyword*

Description Details if the P4Runtime service is operationally available

Context system p4rt-server unix-socket 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.

Configurable False

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

protocols

Description	The routing protocols that are supported by the system
Context	system protocols
Tree	protocols
Configurable	True
Platforms	Supported on all platforms

bgp

Description	Enable the bgp context
Context	system protocols bgp
Tree	bgp
Configurable	True
Platforms	Supported on all platforms

restart-max-wait *number*

Description	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 restart. After this time elapses BGP declares that convergence has occurred and sends its own EOR markers to its peers.

Context	system protocols bgp restart-max-wait *number*
Tree	restart-max-wait
Range	0 to 3600
Default	600
Units	seconds
Configurable	True
Platforms	Supported on all platforms

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

hop-limit *number*

Description	Verifies the minimum advertised hop count limit. If not specified the verification is skipped.
Context	system ra-guard-policy name *string* hop-limit *number*
Tree	hop-limit
Range	1 to 255
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

managed-config-flag *boolean*

Description	Causes the RA Guard policy to match IPv6 RA messages with the M (Managed address) flag set. If not specified the verification is skipped.
Context	system ra-guard-policy name *string* managed-config-flag *boolean*
Tree	managed-config-flag
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

other-config-flag *boolean*

Description	Causes the RA Guard policy to match IPv6 RA messages with the O (Other config) flag set. If not specified the verification is skipped.
Context	system ra-guard-policy name *string* other-config-flag *boolean*
Tree	other-config-flag
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

router-preference *keyword*

Description	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.
Context	system ra-guard-policy name *string* router-preference *keyword*
Tree	router-preference
Options	• high • medium • low
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

source-prefix-set *reference*

Description	Reference to a prefix set to match RA source address. If not specified the verification is skipped.
Context	system ra-guard-policy name *string* source-prefix-set *reference*
Tree	source-prefix-set
Reference	routing-policy prefix-set name *string*
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

sflow

Description	Context to configure sFlow Agent parameters and report sFlow state

Context	system sflow
Tree	sflow
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Administratively enable or disable sFlow for the system
Context	system sflow admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	Supported on all platforms

collector collector-id *number*

Description	List of sFlow collectors to which sFlow sample data is sent
Context	system sflow collector collector-id *number*
Tree	collector
Configurable	True
Platforms	Supported on all platforms
Max. Elements	8

collector-id *number*

Description	Specify the collector ID
Context	system sflow collector collector-id *number*
Range	1 to 8
Configurable	True
Platforms	Supported on all platforms

collector-address *(ipv4-address | ipv6-address)*

Description	The IP address for an sFlow collector
Context	system sflow collector collector-id *number* collector-address *(ipv4-address | ipv6-address)*
Tree	collector-address
Configurable	True
Platforms	Supported on all platforms

network-instance *reference*

Description	Reference to a configured network-instance
Context	system sflow collector collector-id *number* network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

next-hop *(ipv4-address | ipv6-address)*

Description	Specifies the active IP next hop used to reach the associated collector
Context	system sflow collector collector-id *number* next-hop *(ipv4-address | ipv6-address)*
Tree	next-hop
Configurable	False
Platforms	Supported on all platforms

port *number*

Description	Specifies the destination UDP port number to be used in sFlow packets
Context	system sflow collector collector-id *number* port *number*
Tree	port
Default	6343
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 collector collector-id *number* source-address *(ipv4-address | ipv6-address)*
Tree	source-address
Configurable	True
Platforms	Supported on all platforms

dscp *number*

Description	Specify sFlow DSCP value This value specifies the DSCP value used in IP header of samples sent to the associated collectors.
Context	system sflow dscp *number*
Tree	dscp
Range	0 to 63
Default	0
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sample-rate *number*

Description	Specify sFlow sample rate This value is the rate at which traffic will be sampled at a rate of 1:N received packets.
Context	system sflow sample-rate *number*
Tree	sample-rate
Range	1 to 2000000
Default	10000
Configurable	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 | 512

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

Configurable False

Platforms Supported on all platforms

total-samples-taken *number*

Description	Total number of sFlow samples taken
Context	system sflow statistics total-samples-taken *number*
Tree	total-samples-taken
Default	0
Configurable	False
Platforms	Supported on all platforms

total-sent-packets *number*

Description	Total number of sFlow packets sent to collectors
Context	system sflow statistics total-sent-packets *number*
Tree	total-sent-packets
Default	0
Configurable	False
Platforms	Supported on all platforms

snmp

Description	Top-level container for SNMP configuration and state
Context	system snmp
Tree	snmp
Configurable	True
Platforms	Supported on all platforms

community *string*

Description	Enter the community context
Context	system snmp community *string*
Tree	community
String Length	1 to 255
Configurable	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
Max. Elements	5

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.

Configurable False

Platforms Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description List of IP addresses for the SNMP server to listen on within the network-instance

Context system snmp network-instance name *reference* source-address *(ipv4-address | ipv6-address)*

Tree source-address

Default	::
Configurable	True
Platforms	Supported on all platforms
Max. Elements	16

ssh-server

Description	Top-level container for SSH server configuration and state
Context	system ssh-server
Tree	ssh-server
Configurable	True
Platforms	Supported on all platforms

host-key

Description	Enter the host-key context
Context	system ssh-server host-key
Tree	host-key
Configurable	True
Platforms	Supported on all platforms

certificate *string*

Description	The SSH servers host key certificate The value should be the host key certificate as read from the *-cert.pub file generated by the CA including the certificate type, e.g. 'ssh-rsa-cert-v01@openssh.com AAAA<...> comment'. This certificate is returned to clients during SSH init for the client to verify the host it is communicating with. This sets the HostCertificate option within each SSH servers configuration file. The certificate should be generated by first extracting the systems current public key and having this signed by a CA.
Context	system ssh-server host-key certificate *string*
Tree	certificate
Configurable	True
Platforms	Supported on all platforms

preserve *boolean*

Description	Indicates whether the SSH server host keys should be preserved on reboots Setting this to true will result in host keys in /etc/sshd not being cleared on a reboot. Alternatively setting this to false will result in host keys being removed and regenerated on each reboot of the system.
Context	system ssh-server host-key preserve *boolean*
Tree	preserve
Default	true
Configurable	True
Platforms	Supported on all platforms

network-instance name *reference*

Description	List of network-instances to run an SSH server in
Context	system ssh-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 ssh-server network-instance name *reference*
Reference	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

admin-state *keyword*

Description	Enables the SSH server in this network-instance
Context	system ssh-server 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 SSH server

Context system ssh-server 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.

Configurable False

Platforms Supported on all platforms

protocol-version *number*

Description Protocol version in use by the SSH server

Context system ssh-server network-instance name *reference* protocol-version *number*

Tree protocol-version

Configurable False

Platforms Supported on all platforms

rate-limit *number*

Description 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

Context system ssh-server network-instance name *reference* rate-limit *number*

Tree rate-limit

Default 20

Configurable True

Platforms Supported on all platforms

source-address *(ipv4-address | ipv6-address)*

Description List of IP addresses for the SSH server to listen on within the network-instance

Context system ssh-server network-instance name *reference* source-address *(ipv4-address | ipv6-address)*

Tree source-address

Configurable True

Platforms Supported on all platforms

timeout *number*

Description	Set the idle timeout in seconds on SSH connections
Context	system ssh-server network-instance name *reference* timeout *number*
Tree	timeout
Default	0
Units	seconds
Configurable	True
Platforms	Supported on all platforms

revoked-keys *string*

Description	List of revoked public keys Each items value should be the public key of a revoked keypair, e.g. 'ssh-rsa AAAA<...>= comment'. Any keys provided here cannot be used for public key authentication. This sets the RevokedKeys option within each SSH servers configuration file.
Context	system ssh-server revoked-keys *string*
Tree	revoked-keys
Configurable	True
Platforms	Supported on all platforms

trust-anchors *string*

Description	List of public keys used to verify user certificates during authentication Each items value should be the public key of a CA, e.g. 'ssh-rsa AAAA<...>= comment'. If no trust anchors are configured, authentication using SSH certificates will not function. This sets the TrustedUserCAKeys option within each SSH servers configuration file.
Context	system ssh-server trust-anchors *string*
Tree	trust-anchors
Configurable	True
Platforms	Supported on all platforms

sync

Description	Context to configure sync parameters and report sessions state
Context	system sync
Tree	sync
Configurable	True
Platforms	7220 IXR-D5

freq-clock

Description	Enter the freq-clock context
Context	system sync freq-clock
Tree	freq-clock
Configurable	True
Platforms	7220 IXR-D5

active-reference *keyword*

Description	Displays information about the current selected (active) line timing reference
Context	system sync freq-clock active-reference *keyword*
Tree	active-reference
Options	• 0 • 1 • 2 • 3 • internal
Configurable	False
Platforms	7220 IXR-D5

freq-clock-state *keyword*

Description	Shows the frequency clock mode state
Context	system sync freq-clock freq-clock-state *keyword*
Tree	freq-clock-state
Options	• not-present Frequency clock is locked to a line timing reference signal

- master-free-run

  Frequency clock is master free run mode
- master-holdover

  Frequency clock is master holdover mode
- master-locked

  Frequency clock is master locked mode
- slave

  Frequency clock is slave mode
- acquiring

  Frequency clock is acquiring mode

Configurable False

Platforms 7220 IXR-D5

freq-offset *decimal-number*

Description The frequency offset between the central frequency clock and the selected reference in ppb

Context system sync freq-clock freq-offset *decimal-number*

Tree freq-offset

Units parts-per-billion

Configurable False

Platforms 7220 IXR-D5

network-type *keyword*

Description Configures SyncE for SSM code-type as SONET or SDH mode sdh specifies the values corresponding to ITU-T G.781 Option 1 compliant networks. sonet specifies the values corresponding to ITU-T G.781 Option 2 compliant networks.

Context system sync freq-clock network-type *keyword*

Tree network-type

Default sonet

Options

- sdh

  sdh specifies the values corresponding to G.781 Option 1 compliant networks
- sonet

sonet specifies the values corresponding to G.781 Option 2 compliant networks

Configurable True

Platforms 7220 IXR-D5

ql-input-threshold *keyword*

Description This command configures the minimum acceptable QL value Frequency references with lower QL will not be considered for selection by the system timing module. Options: unused, prs, stu, st2, tnc, st3e, st3, prc, ssua, ssub, sec, eec1, eec2

Context system sync freq-clock ql-input-threshold *keyword*

Tree ql-input-threshold

Default unused

Options

- unused

  No override or minimum QL level selected
- prs

  QL of PRS
- stu

  QL of STU
- st2

  QL of Stratum 2
- tnc

  QL of TNC
- st3e

  QL of Stratum 3E
- st3

  QL of Stratum 3
- prc

  QL of PRC
- ssua

  QL of SSU-A
- ssub

  QL of SSU-B
- sec

  QL of SEC
- eec1

QL of EEC-1

- eec2

  QL of EEC-2

Configurable True

Platforms 7220 IXR-D5

ql-selection *boolean*

Description Configures if frequency reference selection takes the QL (Quality Level) into account When enabled, the selection of system timing reference and BITS output timing reference takes into account quality level. Quality level is conveyed via the SSM or forced using the ql-override command..

Context system sync freq-clock ql-selection *boolean*

Tree ql-selection

Default false

Configurable True

Platforms 7220 IXR-D5

revert *boolean*

Description This command configures if the frequency clock is in revertive mode In revertive mode, when a failed reference becomes operational, the system will automatically switch to the recovered reference if it is of higher priority and/or QL. When the mode is non-revertive, a failed clock source is not automatically selected.

Context system sync freq-clock revert *boolean*

Tree revert

Default false

Configurable True

Platforms 7220 IXR-D5

system-ql-value *keyword*

Description System QL value based on the reference selected

Context system sync freq-clock system-ql-value *keyword*

Tree system-ql-value

Options

- unknown

  Unknown

- prs
  QL of PRS
- stu
  QL of STU
- st2
  QL of Stratum 2
- tnc
  QL of TNC
- st3e
  QL of Stratum 3E
- st3
  QL of Stratum 3
- smc
  QL of SMC
- st4
  QL of Stratum 4
- dus
  QL of DNU
- prc
  QL of PRC
- ssua
  QL of SSU-A
- ssub
  QL of SSU-B
- sec
  QL of SEC
- dnu
  QL of DNU
- inv
  QL of INV
- pno
  QL of PNO
- eec1
  QL of EEC-1
- eec2
  QL of EEC-2

- failed

  Failed

Configurable False

Platforms 7220 IXR-D5

wait-to-restore *number*

Description This command configures the time for the Wait to Restore timer A previously failed input reference must be valid for the time specified before it is used for the clock input reference.

Context system sync freq-clock wait-to-restore *number*

Tree wait-to-restore

Range 0 to 12

Default 5

Units minutes

Configurable True

Platforms 7220 IXR-D5

freq-references

Description Enter the freq-references context

Context system sync freq-references

Tree freq-references

Configurable True

Platforms 7220 IXR-D5

instance instance-number *number*

Description List of line references configured for frequency

Context system sync freq-references instance instance-number *number*

Tree instance

Configurable True

Platforms 7220 IXR-D5

instance-number *number*

Description The instance number of the each line reference

Context system sync freq-references instance instance-number *number*

Range 1 to 5

Configurable True

Platforms 7220 IXR-D5

admin-state *keyword*

Description Configure the administrative state of this frequency reference instance

Context system sync freq-references instance instance-number *number* admin-state *keyword*

Tree admin-state

Default disable

Options

- enable
- disable

Configurable True

Platforms 7220 IXR-D5

not-qualified-reason *keyword*

Description If the reference is not qualified, this identifies the reason

Context system sync freq-references instance instance-number *number* not-qualified-reason *keyword*

Tree not-qualified-reason

Options

- not-applicable

  Reason is not applicable
- los

  Reference is not-qualified because of Loss of Signal (LOS)
- ssm-quality

  Reference is not-qualified because of received SSM/QL level
- out-of-range

  Reference is not-qualified because the reference is out of range in frequency
- wtr

Reference is not-qualified because the wait-to-restore timer has not expired

- admin-disabled

  Reference is not-qualified because the reference has not been admin enabled

Configurable False

Platforms 7220 IXR-D5

oper-state *keyword*

Description Indicates the operational state of this line reference

Context system sync freq-references instance instance-number *number* 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.

Configurable False

Platforms 7220 IXR-D5

priority *number*

Description Sets the priority of this line timing reference for the system timing selection process 1 = highest priority 5 = lowest priority Duplicate numbers are not allowed

Context system sync freq-references instance instance-number *number* priority *number*

Tree priority

Range 1 to 5

Default 3

Configurable True

Platforms 7220 IXR-D5

ql-override *keyword*

Description Override the incoming QL/SSM value for this line reference Quality level override of a timing reference Options are unused, prs, stu, st2, tnc, st3e, st3, prc, ssua, ssub, sec, eec1, eec2

Context system sync freq-references instance instance-number *number* ql-override *keyword*

Tree ql-override

Default unused

Options

- unused

  No override or minimum QL level selected

- prs

  QL of PRS

- stu
  QL of STU
- st2
  QL of Stratum 2
- tnc
  QL of TNC
- st3e
  QL of Stratum 3E
- st3
  QL of Stratum 3
- prc
  QL of PRC
- ssua
  QL of SSU-A
- ssub
  QL of SSU-B
- sec
  QL of SEC
- eec1
  QL of EEC-1
- eec2
  QL of EEC-2

Configurable True

Platforms 7220 IXR-D5

ql-value *keyword*

Description The incoming QL/SSM value from this line reference

Context system sync freq-references instance instance-number *number* ql-value *keyword*

Tree ql-value

Options

- unknown
  Unknown
- prs
  QL of PRS
- stu

QL of STU

- st2
  QL of Stratum 2
- tnc
  QL of TNC
- st3e
  QL of Stratum 3E
- st3
  QL of Stratum 3
- smc
  QL of SMC
- st4
  QL of Stratum 4
- dus
  QL of DNU
- prc
  QL of PRC
- ssua
  QL of SSU-A
- ssub
  QL of SSU-B
- sec
  QL of SEC
- dnu
  QL of DNU
- inv
  QL of INV
- pno
  QL of PNO
- eec1
  QL of EEC-1
- eec2
  QL of EEC-2
- failed
  Failed

Configurable False

Platforms	7220 IXR-D5

reference-status *keyword*

Description	The current status this line reference
Context	system sync freq-references instance instance-number *number* reference-status *keyword*
Tree	reference-status
Options	• qualified Reference is in normal qualified state • not-qualified Reference is in not-qualified state
Configurable	False
Platforms	7220 IXR-D5

source

Description	Source for this input frequency reference This shall be either a leafref to an interface or an application. The leafref must point to an existing physical ethernet interface.
Context	system sync freq-references instance instance-number *number* source
Tree	source
Configurable	True
Platforms	7220 IXR-D5

interface *reference*

Description	Enter the interface context
Context	system sync freq-references instance instance-number *number* source interface *reference*
Tree	interface
Reference	interface name *string*
Configurable	True
Platforms	7220 IXR-D5

one-pps

Description	Enter the one-pps context
Context	system sync one-pps
Tree	one-pps
Configurable	True
Platforms	7220 IXR-D5

admin-state *keyword*

Description	Configure the administrative state of the 1PPS (50 ohm) output port When enabled, output is enabled. Otherwise, the output is disabled.
Context	system sync one-pps admin-state *keyword*
Tree	admin-state
Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D5

ptp

Description	Enter the ptp context
Context	system sync ptp
Tree	ptp
Configurable	True
Platforms	7220 IXR-D5

instance instance-index *number*

Description	List of one or more PTP instances in the product (PTP Node) Each PTP instance represents a distinct instance of PTP implementation (i.e. distinct Ordinary Clock, Boundary Clock, or Transparent Clock), maintaining a distinct time.
Context	system sync ptp instance instance-index *number*
Tree	instance
Configurable	True

Platforms	7220 IXR-D5

instance-index *number*

Description	The instance index of the current PTP instance This instance index is used for management purposes only. This instance index does not represent the PTP domain number and is not used in PTP messages.
Context	system sync ptp instance instance-index *number*
Range	1 to 2
Configurable	True
Platforms	7220 IXR-D5

current-ds

Description	Provides current data from operation of the protocol
Context	system sync ptp instance instance-index *number* current-ds
Tree	current-ds
Configurable	False
Platforms	7220 IXR-D5

mean-delay *number*

Description	The mean propagation time between this PTP instance and the master clock
Context	system sync ptp instance instance-index *number* current-ds mean-delay *number*
Tree	mean-delay
Configurable	False
Platforms	7220 IXR-D5

offset-from-master *number*

Description	The time difference between this PTP instance and the master clock
Context	system sync ptp instance instance-index *number* current-ds offset-from-master *number*
Tree	offset-from-master
Configurable	False

Platforms 7220 IXR-D5

steps-removed *number*

Description The number of PTP clock steps in the path between the this PTP instance and the GM

Context system sync ptp instance instance-index *number* current-ds steps-removed *number*

Tree steps-removed

Configurable False

Platforms 7220 IXR-D5

default-ds

Description 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

Context system sync ptp instance instance-index *number* default-ds

Tree default-ds

Configurable True

Platforms 7220 IXR-D5

announce-receipt-timeout *number*

Description Sets the time limit for missed Announce packets before the master clock is deemed down

This command configures the announceReceiptTimeout value for all peer associations. This defines the number of Announce message intervals that must expire with no received Announce messages before declaring an ANNOUNCE_RECEIPT_TIMEOUT event.

Context system sync ptp instance instance-index *number* default-ds announce-receipt-timeout *number*

Tree announce-receipt-timeout

Range 2 to 10

Default 3

Configurable True

Platforms 7220 IXR-D5

clock-identity *binary*

Description	The clockIdentity of the local clock
Context	system sync ptp instance instance-index *number* default-ds clock-identity *binary*
Tree	clock-identity
String Length	8
Configurable	False
Platforms	7220 IXR-D5

clock-quality

Description	The clockQuality of the local clock
Context	system sync ptp instance instance-index *number* default-ds clock-quality
Tree	clock-quality
Configurable	False
Platforms	7220 IXR-D5

clock-accuracy *number*

Description	The clockAccuracy indicates the expected accuracy of the clock
Context	system sync ptp instance instance-index *number* default-ds clock-quality clock-accuracy *number*
Tree	clock-accuracy
Configurable	False
Platforms	7220 IXR-D5

clock-class *number*

Description	The clockClass denotes the traceability of the time or frequency distributed by the clock
Context	system sync ptp instance instance-index *number* default-ds clock-quality clock-class *number*
Tree	clock-class
Configurable	False
Platforms	7220 IXR-D5

offset-scaled-log-variance *number*

Description	The offsetScaledLogVariance provides an estimate of the variations of the clock
Context	system sync ptp instance instance-index *number* default-ds clock-quality offset-scaled-log-variance *number*
Tree	offset-scaled-log-variance
Configurable	False
Platforms	7220 IXR-D5

current-time

Description	The current time in the current data set
Context	system sync ptp instance instance-index *number* default-ds current-time
Tree	current-time
Configurable	False
Platforms	7220 IXR-D5

time-nano-seconds *number*

Description	Nano-seconds of time
Context	system sync ptp instance instance-index *number* default-ds current-time time-nano-seconds *number*
Tree	time-nano-seconds
Configurable	False
Platforms	7220 IXR-D5

time-seconds *number*

Description	Seconds of time
Context	system sync ptp instance instance-index *number* default-ds current-time time-seconds *number*
Tree	time-seconds
Configurable	False
Platforms	7220 IXR-D5

domain-number *number*

Description	The IEEE Std 1588 domainNumber of the PTP instance A domain consists of one or more PTP instances communicating with each other as defined by the protocol. A domain shall define the scope of PTP message communication, state, operations, data sets, and timescale. Therefore, each domain represents a distinct time. The default domain number is defined by the profile. itug8275dot1: 24 itug8275dot2: 44
Context	system sync ptp instance instance-index *number* default-ds domain-number *number*
Tree	domain-number
Range	0 to 255
Configurable	True
Platforms	7220 IXR-D5

instance-enable *boolean*

Description	Enable PTP clock
Context	system sync ptp instance instance-index *number* default-ds instance-enable *boolean*
Tree	instance-enable
Default	false
Configurable	True
Platforms	7220 IXR-D5

instance-type *keyword*

Description	The type of PTP instance as per IEEE1588 standard For G.8275.1: oc is for T-GM, bc is for T-BC; T-TSC not supported since T-BC can be used for this role For G.8275.2: oc is for T-GM, bc is for T-BC-A and T-BC-P; T-TSC-A and T-TSC-P are not supported since T-BC-A or T-BC-P can be used for this role
Context	system sync ptp instance instance-index *number* default-ds instance-type *keyword*
Tree	instance-type
Default	bc
Options	• bc boundary clock
Configurable	True

Platforms	7220 IXR-D5

local-priority *number*

Description	The IEEE Std 1588 priority2 of the PTP instance The priority2 member is compared by the Best Master Clock Algorithm (BMCA) after priority1 and clockQuality. Lower values take precedence.
Context	system sync ptp instance instance-index *number* default-ds local-priority *number*
Tree	local-priority
Range	1 to 255
Default	128
Configurable	True
Platforms	7220 IXR-D5

log-announce-interval *number*

Description	The base-2 logarithm of the mean announceInterval This is the mean time interval between successive Announce messages. The default log announce interval is defined by the profile. itug8275dot1: -3 (8 messages per second) itug8275dot2: 1 (1 message every two seconds)
Context	system sync ptp instance instance-index *number* default-ds log-announce-interval *number*
Tree	log-announce-interval
Range	-3 to 4
Configurable	True
Platforms	7220 IXR-D5

number-ports *number*

Description	The number of PTP ports on the instance
Context	system sync ptp instance instance-index *number* default-ds number-ports *number*
Tree	number-ports
Configurable	False
Platforms	7220 IXR-D5

priority1 *number*

Description	The IEEE Std 1588 priority1 of the PTP instance Since priority1 is one of the first comparisons performed by the Best Master Clock Algorithm (BMCA). Range is 0-255.
Context	system sync ptp instance instance-index *number* default-ds priority1 *number*
Tree	priority1
Range	0 to 255
Default	128
Configurable	True
Platforms	7220 IXR-D5

priority2 *number*

Description	The IEEE Std 1588 priority2 of the PTP instance The priority2 member is compared by the Best Master Clock Algorithm (BMCA) after priority1 and clockQuality. Lower values take precedence.
Context	system sync ptp instance instance-index *number* default-ds priority2 *number*
Tree	priority2
Range	0 to 255
Default	128
Configurable	True
Platforms	7220 IXR-D5

statistics

Description	Aggregate statistics for the PTP clock
Context	system sync ptp instance instance-index *number* default-ds statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D5

anno-msg-rx *number*

Description	Specifies the number of announce messages received
Context	system sync ptp instance instance-index *number* default-ds statistics anno-msg-rx *number*

Tree	anno-msg-rx
Configurable	False
Platforms	7220 IXR-D5

anno-msg-tx *number*

Description	Specifies the number of announce messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics anno-msg-tx *number*
Tree	anno-msg-tx
Configurable	False
Platforms	7220 IXR-D5

del-req-msg-rx *number*

Description	Specifies the number of delay-req messages received
Context	system sync ptp instance instance-index *number* default-ds statistics del-req-msg-rx *number*
Tree	del-req-msg-rx
Configurable	False
Platforms	7220 IXR-D5

del-req-msg-tx *number*

Description	Specifies the number of delay-req messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics del-req-msg-tx *number*
Tree	del-req-msg-tx
Configurable	False
Platforms	7220 IXR-D5

del-resp-msg-rx *number*

Description	Specifies the number of delay-resp messages received
Context	system sync ptp instance instance-index *number* default-ds statistics del-resp-msg-rx *number*
Tree	del-resp-msg-rx

Configurable	False
Platforms	7220 IXR-D5

del-resp-msg-tx *number*

Description	Specifies the number of delay-resp messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics del-resp-msg-tx *number*
Tree	del-resp-msg-tx
Configurable	False
Platforms	7220 IXR-D5

delay-high-packet-loss *number*

Description	The number of events with high packet loss for delay req packets
Context	system sync ptp instance instance-index *number* default-ds statistics delay-high-packet-loss *number*
Tree	delay-high-packet-loss
Default	0
Configurable	False
Platforms	7220 IXR-D5

delay-packet-loss *number*

Description	The number of events with detected packet loss for the delay request/response packets
Context	system sync ptp instance instance-index *number* default-ds statistics delay-packet-loss *number*
Tree	delay-packet-loss
Default	0
Configurable	False
Platforms	7220 IXR-D5

discards

Description	Aggregate discard statistics for the PTP clock

Context	system sync ptp instance instance-index *number* default-ds statistics discards
Tree	discards
Configurable	False
Platforms	7220 IXR-D5

alternate-master *number*

Description	Specifies the number of alternate master messages that were discarded
Context	system sync ptp instance instance-index *number* default-ds statistics discards alternate-master *number*
Tree	alternate-master
Configurable	False
Platforms	7220 IXR-D5

bad-domain *number*

Description	Specifies the number of bad domain messages that were discarded
Context	system sync ptp instance instance-index *number* default-ds statistics discards bad-domain *number*
Tree	bad-domain
Configurable	False
Platforms	7220 IXR-D5

other *number*

Description	Specifies the number of other messages that were discarded
Context	system sync ptp instance instance-index *number* default-ds statistics discards other *number*
Tree	other
Configurable	False
Platforms	7220 IXR-D5

out-of-sequence *number*

Description	Specifies the number of out of sequence messages that were discarded

Context	system sync ptp instance instance-index *number* default-ds statistics discards out-of-sequence *number*
Tree	out-of-sequence
Configurable	False
Platforms	7220 IXR-D5

follow-up-msg-rx *number*

Description	Specifies the number of follow-up messages received
Context	system sync ptp instance instance-index *number* default-ds statistics follow-up-msg-rx *number*
Tree	follow-up-msg-rx
Configurable	False
Platforms	7220 IXR-D5

follow-up-msg-tx *number*

Description	Specifies the number of follow-up messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics follow-up-msg-tx *number*
Tree	follow-up-msg-tx
Configurable	False
Platforms	7220 IXR-D5

multicast-msg-rate

Description	Aggregate multicast message rates for the PTP clock
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate
Tree	multicast-msg-rate
Configurable	False
Platforms	7220 IXR-D5

anno-msg-rate-rx *decimal-number*

Description	Specifies the rate of messages of announce messages received

Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate anno-msg-rate-rx *decimal-number*
Tree	anno-msg-rate-rx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

anno-msg-rate-tx *decimal-number*

Description	Specifies the rate of messages of announce messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate anno-msg-rate-tx *decimal-number*
Tree	anno-msg-rate-tx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

del-req-msg-rate-rx *decimal-number*

Description	Specifies the rate of messages of delay-req messages received
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate del-req-msg-rate-rx *decimal-number*
Tree	del-req-msg-rate-rx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

del-req-msg-rate-tx *decimal-number*

Description	Specifies the rate of messages of delay-req messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate del-req-msg-rate-tx *decimal-number*
Tree	del-req-msg-rate-tx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

del-resp-msg-rate-rx *decimal-number*

Description	Specifies the rate of messages of delay-resp messages received
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate del-resp-msg-rate-rx *decimal-number*
Tree	del-resp-msg-rate-rx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

del-resp-msg-rate-tx *decimal-number*

Description	Specifies the rate of messages of delay-resp messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate del-resp-msg-rate-tx *decimal-number*
Tree	del-resp-msg-rate-tx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

follow-up-msg-rate-rx *decimal-number*

Description	Specifies the rate of messages of follow-up messages received
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate follow-up-msg-rate-rx *decimal-number*
Tree	follow-up-msg-rate-rx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

follow-up-msg-rate-tx *decimal-number*

Description	Specifies the rate of messages of follow-up messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate follow-up-msg-rate-tx *decimal-number*
Tree	follow-up-msg-rate-tx
Units	messages-per-second

Configurable	False
Platforms	7220 IXR-D5

other-rate-rx *decimal-number*

Description	Specifies the rate of messages of other messages received
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate other-rate-rx *decimal-number*
Tree	other-rate-rx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

sync-msg-rate-rx *decimal-number*

Description	Specifies the rate of messages of sync messages received
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate sync-msg-rate-rx *decimal-number*
Tree	sync-msg-rate-rx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

sync-msg-rate-tx *decimal-number*

Description	Specifies the rate of messages of sync messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics multicast-msg-rate sync-msg-rate-tx *decimal-number*
Tree	sync-msg-rate-tx
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

other-rx *number*

Description	Specifies the number of other messages received

Context	system sync ptp instance instance-index *number* default-ds statistics other-rx *number*
Tree	other-rx
Configurable	False
Platforms	7220 IXR-D5

sync-high-packet-loss *number*

Description	The number of events with high packet loss of sync packets
Context	system sync ptp instance instance-index *number* default-ds statistics sync-high-packet-loss *number*
Tree	sync-high-packet-loss
Default	0
Configurable	False
Platforms	7220 IXR-D5

sync-msg-rx *number*

Description	Specifies the number of sync messages received
Context	system sync ptp instance instance-index *number* default-ds statistics sync-msg-rx *number*
Tree	sync-msg-rx
Configurable	False
Platforms	7220 IXR-D5

sync-msg-tx *number*

Description	Specifies the number of sync messages transmitted
Context	system sync ptp instance instance-index *number* default-ds statistics sync-msg-tx *number*
Tree	sync-msg-tx
Configurable	False
Platforms	7220 IXR-D5

sync-packet-loss *number*

Description The number of events with detected packet loss of sync packets from the master clock

Context system sync ptp instance instance-index *number* default-ds statistics sync-packet-loss *number*

Tree sync-packet-loss

Default 0

Configurable False

Platforms 7220 IXR-D5

time-recovery-engine

Description Enter the time-recovery-engine context

Context system sync ptp instance instance-index *number* default-ds time-recovery-engine

Tree time-recovery-engine

Configurable False

Platforms 7220 IXR-D5

algorithm-state *keyword*

Description Specifies the current state of the time recovery engine in the PTP clock

Context system sync ptp instance instance-index *number* default-ds time-recovery-engine algorithm-state *keyword*

Tree algorithm-state

Options

- not-applicable

  Not applicable to time recovery
- initial

  Initializing state
- acquiring

  Acquiring state
- holdover

  Holdover state
- locked

  Locked state

Configurable False

Platforms	7220 IXR-D5

last-adjustment *number*

Description	Specifies the last adjustment in nanoseconds to the local time of the PTP clock
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine last-adjustment *number*
Tree	last-adjustment
Units	nanoseconds
Configurable	False
Platforms	7220 IXR-D5

last-adjustment-timestamp *string*

Description	The time when last-adjustment was last calculated
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine last-adjustment-timestamp *string*
Tree	last-adjustment-timestamp
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D5

state-last-changed *string*

Description	Specifies the last occurrence of a ptp state change for the time recovery engine
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine state-last-changed *string*
Tree	state-last-changed
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D5

statistics

Description	Time recovery engine state statistics for the PTP clock

Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D5

delay-too-much-pdv *number*

Description	The number of events with high PDV for delay request/response packets for time recovery
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics delay-too-much-pdv *number*
Tree	delay-too-much-pdv
Default	0
Configurable	False
Platforms	7220 IXR-D5

sync-too-much-pdv *number*

Description	The number of events with high PDV for sync packets for time recovery
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics sync-too-much-pdv *number*
Tree	sync-too-much-pdv
Default	0
Configurable	False
Platforms	7220 IXR-D5

time-in-acquiring *number*

Description	Specifies the number of seconds while in Acquiring state
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics time-in-acquiring *number*
Tree	time-in-acquiring
Units	seconds
Configurable	False
Platforms	7220 IXR-D5

time-in-holdover *number*

Description	Specifies the number of seconds while in Holdover state
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics time-in-holdover *number*
Tree	time-in-holdover
Units	seconds
Configurable	False
Platforms	7220 IXR-D5

time-in-initial *number*

Description	Specifies the number of seconds while in Initializing state
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics time-in-initial *number*
Tree	time-in-initial
Units	seconds
Configurable	False
Platforms	7220 IXR-D5

time-in-locked *number*

Description	Specifies the number of seconds while in Locked state
Context	system sync ptp instance instance-index *number* default-ds time-recovery-engine statistics time-in-locked *number*
Tree	time-in-locked
Units	seconds
Configurable	False
Platforms	7220 IXR-D5

two-step-flag *boolean*

Description	Indicates if the clock is operating in two-step mode
Context	system sync ptp instance instance-index *number* default-ds two-step-flag *boolean*
Tree	two-step-flag
Configurable	False

Platforms	7220 IXR-D5

parent-ds

Description	The parent data set of the clock
Context	system sync ptp instance instance-index *number* parent-ds
Tree	parent-ds
Configurable	False
Platforms	7220 IXR-D5

grandmaster-clock-quality

Description	The clockQuality of the grandmaster clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-clock-quality
Tree	grandmaster-clock-quality
Configurable	False
Platforms	7220 IXR-D5

clock-accuracy *number*

Description	The clockAccuracy indicates the expected accuracy of the clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-clock-quality clock-accuracy *number*
Tree	clock-accuracy
Configurable	False
Platforms	7220 IXR-D5

clock-class *number*

Description	The clockClass denotes the traceability of the time or frequency distributed by the clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-clock-quality clock-class *number*
Tree	clock-class
Configurable	False
Platforms	7220 IXR-D5

offset-scaled-log-variance *number*

Description	The offsetScaledLogVariance provides an estimate of the variations of the clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-clock-quality offset-scaled-log-variance *number*
Tree	offset-scaled-log-variance
Configurable	False
Platforms	7220 IXR-D5

grandmaster-identity *binary*

Description	The clockIdentity of the grandmaster clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-identity *binary*
Tree	grandmaster-identity
String Length	8
Configurable	False
Platforms	7220 IXR-D5

grandmaster-priority1 *number*

Description	The priority1 attribute of the grandmaster clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-priority1 *number*
Tree	grandmaster-priority1
Configurable	False
Platforms	7220 IXR-D5

grandmaster-priority2 *number*

Description	The priority2 attribute of the grandmaster clock
Context	system sync ptp instance instance-index *number* parent-ds grandmaster-priority2 *number*
Tree	grandmaster-priority2
Configurable	False
Platforms	7220 IXR-D5

parent-port-identity

Description	The portIdentity of the port on the master
Context	system sync ptp instance instance-index *number* parent-ds parent-port-identity
Tree	parent-port-identity
Configurable	False
Platforms	7220 IXR-D5

clock-identity *binary*

Description	Identity of the parent clock
Context	system sync ptp instance instance-index *number* parent-ds parent-port-identity clock-identity *binary*
Tree	clock-identity
String Length	8
Configurable	False
Platforms	7220 IXR-D5

port-number *number*

Description	Port number of the parent clock
Context	system sync ptp instance instance-index *number* parent-ds parent-port-identity port-number *number*
Tree	port-number
Configurable	False
Platforms	7220 IXR-D5

protocol-address

Description	The protocol address of the PTP Port that issues the Sync messages
Context	system sync ptp instance instance-index *number* parent-ds protocol-address
Tree	protocol-address
Configurable	False
Platforms	7220 IXR-D5

mac-address *string*

Description The MAC address of the PTP port

This is only valid for PTP over ethernet encapsulation.

Context system sync ptp instance instance-index *number* parent-ds protocol-address mac-address *string*

Tree mac-address

Configurable False

Platforms 7220 IXR-D5

network-protocol *identityref*

Description Protocol used by a PTP instance to transport PTP messages

Context system sync ptp instance instance-index *number* parent-ds protocol-address network-protocol *identityref*

Tree network-protocol

Options

- udp-ipv4

  UDP on IPv4. Numeric value is 0001 hex
- udp-ipv6

  UDP on IPv6. Numeric value is 0002 hex
- ieee802-3

  IEEE Std 802.3 (Ethernet). Numeric value is 0003 hex
- devicenet

  DeviceNet. Numeric value is 0004 hex
- controlnet

  ControlNet. Numeric value is 0005 hex
- profinet

  PROFINET. Numeric value is 0006 hex
- otn

  Optical Transport Network (OTN). Numeric value is 0007 hex
- unknown

  Unknown. Numeric value is FFFE hex

Configurable False

Platforms 7220 IXR-D5

port-ds-list port-index *number*

Description	List of port data sets of the clock
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number*
Tree	port-ds-list
Configurable	True
Platforms	7220 IXR-D5

port-index *number*

Description	Index into the port-ds list This is not the PTP port number. Configurable ports use port indices 1 through 999 but there is a limit on the overall number of these configured ports based on the platform and software release. Non-configurable ports are created based on Unicast negotiation. These use port numbers starting from 1001. One PTP port is defined for the embedded gnss module(s). This port uses port index of 1000. The one ptp port represents gnss-a and gnss-b (where applicable). This is a Special Port as defined in the PTP standard and as such there are leaves if this port-ds that are not relevant for this port. One PTP port is defined for each sync0 interface. The data sets (i.e., information model) of IEEE Std 1588-2008 specify a member portDS.portIdentity, which uses a typed struct with members clock Identity and portNumber. In this YANG data model, portIdentity is not modeled in the port-ds. However, its members are provided as follows: portIdentity.portNumber is provided as this ptp-port-number leaf in port-ds, and portIdentity.clockIdentity is provided as the clock-identity leaf in default-ds of the instance (i.e., ../../default-ds/clock-identity).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number*
Range	1 to 1500
Configurable	True
Platforms	7220 IXR-D5

admin-state *keyword*

Description	The administrative state of the ptp port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* admin-state *keyword*
Tree	admin-state

Default	disable
Options	• enable • disable
Configurable	True
Platforms	7220 IXR-D5

announce-receipt-timeout *number*

Description	Sets the time limit for missed Announce packets before the master clock is deemed down This command configures the announceReceiptTimeout value for all peer associations. This defines the number of Announce message intervals that must expire with no received Announce messages before declaring an ANNOUNCE_RECEIPT_TIMEOUT event. To change this setting, refer to announce-receipt-timeout in the Default data set. This leaf is not used with PTP special ports (gnss).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* announce-receipt-timeout *number*
Tree	announce-receipt-timeout
Range	2 to 10
Configurable	False
Platforms	7220 IXR-D5

asym-correction *number*

Description	Specifies the asymmetry correction value (integer ns) currently used Configuration of an asymmetry correction value is done under interface>ethernet. This leaf is not used with PTP special ports (gnss).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* asym-correction *number*
Tree	asym-correction
Range	-100000000 to 100000000
Units	nanoseconds
Configurable	False
Platforms	7220 IXR-D5

best-master *boolean*

Description Indicates if this peer was selected by the BMCA to be the best master

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* best-master *boolean*

Tree best-master

Configurable False

Platforms 7220 IXR-D5

dest-mac *keyword*

Description Configure the MAC address associated with forwardable or non-forwardable

This leaf is not used with PTP special ports (gnss).

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* dest-mac *keyword*

Tree dest-mac

Default forwardable

Options

- forwardable

  The clock uses the forwardable MAC address: 01-1B-19-00-00-00
- non-forwardable

  The clock uses the non-forwardable MAC address: 01-80-C2-00-00-0E

Configurable True

Platforms 7220 IXR-D5

dynamic *boolean*

Description Indicates if this port was dynamically created by a Unicast Request

TRUE if this port was created based on a received Unicast Request; FALSE if this port was created by operator configuration.

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* dynamic *boolean*

Tree dynamic

Configurable False

Platforms 7220 IXR-D5

local-priority *number*

Description	Specifies the local priority of the ptp port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* local-priority *number*
Tree	local-priority
Range	1 to 255
Default	128
Configurable	True
Platforms	7220 IXR-D5

log-announce-interval *number*

Description	The base-2 logarithm of the mean announceInterval Mean time interval between successive Announce messages. To change this setting, refer to log-announce-interval in the Default data set. This leaf is not used with PTP special ports (gnss).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* log-announce-interval *number*
Tree	log-announce-interval
Range	-3 to 4
Configurable	False
Platforms	7220 IXR-D5

log-min-delay-req-interval *number*

Description	The base-2 logarithm of the minDelayReqInterval The minimum permitted mean time interval between successive Delay_Req messages. The default log-min-delay-req-interval is defined by the profile. itug8275dot1: -4 (16 messages per second) itug8275dot2: -6 (64 messages per second) This leaf is not used with PTP special ports (gnss).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* log-min-delay-req-interval *number*
Tree	log-min-delay-req-interval
Range	-6 to 0
Configurable	True
Platforms	7220 IXR-D5

log-sync-interval *number*

Description	The base-2 logarithm of the mean SyncInterval for multicast messages The default log sync interval is defined by the profile. itug8275dot1: -4 (16 messages per second) itug8275dot2: -6 (64 messages per second) The rates for unicast transmissions are negotiated separately on a per-port basis and are not constrained by this attribute. This leaf is not used with PTP special ports (gnss).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* log-sync-interval *number*
Tree	log-sync-interval
Range	-6 to 0
Configurable	True
Platforms	7220 IXR-D5

major-version-number *number*

Description	The PTP major version number in use on the port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* major-version-number *number*
Tree	major-version-number
Configurable	False
Platforms	7220 IXR-D5

master-only *boolean*

Description	Specifies the masterOnly attribute of the ptp port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* master-only *boolean*
Tree	master-only
Default	true
Configurable	True
Platforms	7220 IXR-D5

minor-version-number *number*

Description	The PTP minor version number in use on the port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* minor-version-number *number*

Tree	minor-version-number
Configurable	False
Platforms	7220 IXR-D5

neighbor-count *number*

Description	The number of neighbors for the port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* neighbor-count *number*
Tree	neighbor-count
Configurable	False
Platforms	7220 IXR-D5

neighbor-list clock-identity *binary* port-number *number*

Description	List of MAC address of all the neighbors of this port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* neighbor-list clock-identity *binary* port-number *number*
Tree	neighbor-list
Configurable	False
Platforms	7220 IXR-D5

clock-identity *binary*

Description	The clockIdentity of this neighbor clock
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* neighbor-list clock-identity *binary* port-number *number*
String Length	8
Configurable	False
Platforms	7220 IXR-D5

port-number *number*

Description	The port number of this neighbor clock
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* neighbor-list clock-identity *binary* port-number *number*
Configurable	False

Platforms	7220 IXR-D5

mac-address *string*

Description	Specifies the MAC address of this neighbor
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* neighbor-list clock-identity *binary* port-number *number* mac-address *string*
Tree	mac-address
Configurable	False
Platforms	7220 IXR-D5

rx-message-rate *decimal-number*

Description	The receive message rate from this neighbor clock
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* neighbor-list clock-identity *binary* port-number *number* rx-message-rate *decimal-number*
Tree	rx-message-rate
Units	messages-per-second
Configurable	False
Platforms	7220 IXR-D5

parent-clock *boolean*

Description	Indicates if this peer is the current parent clock of this PTP clock May differ from best-master due to use of local GNSS as time source.
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* parent-clock *boolean*
Tree	parent-clock
Configurable	False
Platforms	7220 IXR-D5

port-state *keyword*

Description	Current state associated with the port
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* port-state *keyword*

Tree port-state

Options

- initializing

  The port is initializing its data sets, hardware, and communication facilities

- faulty

  The port is in the fault state

- disabled

  The port is disabled and is not communicating PTP messages

- listening

  The port is listening for an Announce message

- pre-master

  The port is in the pre-master state

- master

  The port is behaving as a master port

- passive

  The port is in the passive state

- uncalibrated

  A master port has been selected, but the port is still in the uncalibrated state

- slave

  The port is synchronizing to the selected master port

Configurable False

Platforms 7220 IXR-D5

ptp-port-number *number*

Description IEEE Std 1588 portNumber

This is the port-number that will appear in messages sent for this port-index.

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* ptp-port-number *number*

Tree ptp-port-number

Configurable False

Platforms 7220 IXR-D5

source

Description Source for the PTP session for this PTP port

This shall be either a leafref to an interface, gnss module, dedicated sync port, or an external IP peer.

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* source

Tree source

Configurable True

Platforms 7220 IXR-D5

interface *reference*

Description Enter the interface context

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* source interface *reference*

Tree interface

Reference interface name *string*

Configurable True

Platforms 7220 IXR-D5

peer

Description Enter the peer context

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* source peer

Tree peer

Configurable True

Platforms 7220 IXR-D5

ip-address *(ipv4-address | ipv6-address)*

Description IP address for the PTP peer

Only Unicast addresses are supported

Context system sync ptp instance instance-index *number* port-ds-list port-index *number* source peer ip-address *(ipv4-address | ipv6-address)*

Tree ip-address

Configurable True

Platforms 7220 IXR-D5

network-instance *reference*

Description	Network instance that owns the PTP peer
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* source peer network-instance *reference*
Tree	network-instance
Reference	network-instance name *string*
Configurable	True
Platforms	7220 IXR-D5

statistics

Description	Total messages for a specific PTP port This container is not used with PTP special ports (gnss).
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D5

anno-msg-rx *number*

Description	Specifies the number of announce messages received
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics anno-msg-rx *number*
Tree	anno-msg-rx
Configurable	False
Platforms	7220 IXR-D5

anno-msg-tx *number*

Description	Specifies the number of announce messages transmitted
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics anno-msg-tx *number*
Tree	anno-msg-tx
Configurable	False
Platforms	7220 IXR-D5

del-req-msg-rx *number*

Description	Specifies the number of delay-req messages received
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics del-req-msg-rx *number*
Tree	del-req-msg-rx
Configurable	False
Platforms	7220 IXR-D5

del-req-msg-tx *number*

Description	Specifies the number of delay-req messages transmitted
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics del-req-msg-tx *number*
Tree	del-req-msg-tx
Configurable	False
Platforms	7220 IXR-D5

del-resp-msg-rx *number*

Description	Specifies the number of delay-resp messages received
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics del-resp-msg-rx *number*
Tree	del-resp-msg-rx
Configurable	False
Platforms	7220 IXR-D5

del-resp-msg-tx *number*

Description	Specifies the number of delay-resp messages transmitted
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics del-resp-msg-tx *number*
Tree	del-resp-msg-tx
Configurable	False
Platforms	7220 IXR-D5

discards

Description	Aggregate discard statistics for the PTP clock
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics discards
Tree	discards
Configurable	False
Platforms	7220 IXR-D5

alternate-master *number*

Description	Specifies the number of alternate master messages that were discarded
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics discards alternate-master *number*
Tree	alternate-master
Configurable	False
Platforms	7220 IXR-D5

bad-domain *number*

Description	Specifies the number of bad domain messages that were discarded
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics discards bad-domain *number*
Tree	bad-domain
Configurable	False
Platforms	7220 IXR-D5

other *number*

Description	Specifies the number of other messages that were discarded
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics discards other *number*
Tree	other
Configurable	False
Platforms	7220 IXR-D5

out-of-sequence *number*

Description	Specifies the number of out of sequence messages that were discarded
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics discards out-of-sequence *number*
Tree	out-of-sequence
Configurable	False
Platforms	7220 IXR-D5

follow-up-msg-rx *number*

Description	Specifies the number of follow-up messages received
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics follow-up-msg-rx *number*
Tree	follow-up-msg-rx
Configurable	False
Platforms	7220 IXR-D5

follow-up-msg-tx *number*

Description	Specifies the number of follow-up messages transmitted
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics follow-up-msg-tx *number*
Tree	follow-up-msg-tx
Configurable	False
Platforms	7220 IXR-D5

other-rx *number*

Description	Specifies the number of other messages received
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics other-rx *number*
Tree	other-rx
Configurable	False
Platforms	7220 IXR-D5

sync-msg-rx *number*

Description	Specifies the number of sync messages received
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics sync-msg-rx *number*
Tree	sync-msg-rx
Configurable	False
Platforms	7220 IXR-D5

sync-msg-tx *number*

Description	Specifies the number of sync messages transmitted
Context	system sync ptp instance instance-index *number* port-ds-list port-index *number* statistics sync-msg-tx *number*
Tree	sync-msg-tx
Configurable	False
Platforms	7220 IXR-D5

time-properties-ds

Description	The timeProperties data set of the clock
Context	system sync ptp instance instance-index *number* time-properties-ds
Tree	time-properties-ds
Configurable	False
Platforms	7220 IXR-D5

current-utc-offset *number*

Description	The offset between TAI and UTC Only applies when the epoch of the PTP system is the PTP epoch in units of seconds (i.e. when ptp-timescale is TRUE). Otherwise, the value has no meaning.
Context	system sync ptp instance instance-index *number* time-properties-ds current-utc-offset *number*
Tree	current-utc-offset
Configurable	False
Platforms	7220 IXR-D5

current-utc-offset-valid *boolean*

Description	When set to true, the current UTC offset is valid
Context	system sync ptp instance instance-index *number* time-properties-ds current-utc-offset-valid *boolean*
Tree	current-utc-offset-valid
Configurable	False
Platforms	7220 IXR-D5

frequency-traceable *boolean*

Description	If true, the frequency determining the timescale is traceable to a primary reference
Context	system sync ptp instance instance-index *number* time-properties-ds frequency-traceable *boolean*
Tree	frequency-traceable
Configurable	False
Platforms	7220 IXR-D5

leap59 *boolean*

Description	If true, the last minute of the current UTC day contains 59 seconds
Context	system sync ptp instance instance-index *number* time-properties-ds leap59 *boolean*
Tree	leap59
Configurable	False
Platforms	7220 IXR-D5

leap61 *boolean*

Description	If true, the last minute of the current UTC day contains 61 seconds
Context	system sync ptp instance instance-index *number* time-properties-ds leap61 *boolean*
Tree	leap61
Configurable	False
Platforms	7220 IXR-D5

ptp-timescale *boolean*

Description	If true clock timescale of the grandmaster is PTP; false it is ARB (arbitrary)
Context	system sync ptp instance instance-index *number* time-properties-ds ptp-timescale *boolean*
Tree	ptp-timescale
Configurable	False
Platforms	7220 IXR-D5

time-source *keyword*

Description	The source of time used by the grandmaster clock If a value is received that does not map to one of the enumerations, then the reserved value is used
Context	system sync ptp instance instance-index *number* time-properties-ds time-source *keyword*
Tree	time-source
Options	• atomic-clock • gps • terrestrial-radio • ptp • ntp • hand-set • other • internal-oscillator • reserved
Configurable	False
Platforms	7220 IXR-D5

time-traceable *boolean*

Description	If true, the timescale and the currentUtcOffset are traceable to a primary reference
Context	system sync ptp instance instance-index *number* time-properties-ds time-traceable *boolean*
Tree	time-traceable
Configurable	False
Platforms	7220 IXR-D5

ptp-profile *keyword*

Description	Specifies the PTP profile mode for the PTP clock
Context	system sync ptp ptp-profile *keyword*
Tree	ptp-profile
Default	itug8275dot1
Options	• itug8275dot1 ITU-T G.8275.1 (2014) Profile • itug8275dot2 ITU-T G.8275.2 Profile
Configurable	True
Platforms	7220 IXR-D5

tls

Description	Top-level container for TLS configuration and state
Context	system tls
Tree	tls
Configurable	True
Platforms	Supported on all platforms

server-profile name *string*

Description	List of configured TLS server profiles
Context	system tls server-profile name *string*
Tree	server-profile
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the TLS server-profile
Context	system tls server-profile name *string*
String Length	1 to 247
Configurable	True

Platforms	Supported on all platforms

authenticate-client *boolean*

Description	Defines if the server should authenticate the identity of connecting clients using the trust anchor
Context	system tls server-profile name *string* authenticate-client *boolean*
Tree	authenticate-client
Default	false
Configurable	True
Platforms	Supported on all platforms

certificate *string*

Description	Base64 encoded certificate to use with the private key This includes the '-----BEGIN CERTIFICATE-----' and '-----END CERTIFICATE-----' header and footer
Context	system tls server-profile name *string* certificate *string*
Tree	certificate
Configurable	True
Platforms	Supported on all platforms

certificate-revocation-list *string*

Description	Base64 encoded certificate revocation list This includes the '-----BEGIN X509 CRL' and '-----END X509 CRL' header and footer
Context	system tls server-profile name *string* certificate-revocation-list *string*
Tree	certificate-revocation-list
Configurable	True
Platforms	Supported on all platforms

cipher-list *identityref*

Description	List of ciphers to use when negotiating TLS 1.2 with clients TLS 1.3 cipher suites are always enabled: tls_aes_256_gcm_sha384, tls_aes_128_gcm_sha256, tls_chacha20_poly1305_sha256

Context system tls server-profile name *string* cipher-list *identityref*

Tree cipher-list

Default ecdhe-ecdsa-aes256-gcm-sha384

Options

- ecdhe-rsa-aes256-gcm-sha384
- ecdhe-ecdsa-aes256-gcm-sha384
- ecdhe-rsa-aes256-sha384
- ecdhe-ecdsa-aes256-sha384
- ecdhe-rsa-aes256-sha
- ecdhe-ecdsa-aes256-sha
- dhe-dss-aes256-gcm-sha384
- dhe-rsa-aes256-gcm-sha384
- dhe-rsa-aes256-sha256
- dhe-dss-aes256-sha256
- dhe-rsa-aes256-sha
- 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

Configurable True

Platforms Supported on all platforms

dynamic *boolean*

Description Defines if the profile was dynamically created by service (for example gNSI Authz/Certz)

Context system tls server-profile name *string* dynamic *boolean*

Tree dynamic

Configurable False

Platforms Supported on all platforms

key *string*

Description 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

Context	system tls server-profile name *string* key *string*
Tree	key
Configurable	True
Platforms	Supported on all platforms

trust-anchor *string*

Description	Base64 encoded certificate to use as a trust anchor This includes the '-----BEGIN CERTIFICATE-----' and '-----END CERTIFICATE-----' header and footer
Context	system tls server-profile name *string* trust-anchor *string*
Tree	trust-anchor
Configurable	True
Platforms	Supported on all platforms

trace-options *keyword*

Description	Management server trace options
Context	system trace-options *keyword*
Tree	trace-options
Options	• request • response • common
Configurable	True
Platforms	Supported on all platforms

11 tools acl

```
acl
+  cpm-filter
   +  ipv4-filter
      +  clear
      +  entry sequence-id number
         +  statistics
            +  clear
   +  ipv6-filter
      +  clear
      +  entry sequence-id number
         +  statistics
            +  clear
+  ipv4-filter name string
   +  entry sequence-id number
      +  statistics
         +  clear
   +  statistics
      +  clear
+  ipv6-filter name string
   +  entry sequence-id number
      +  statistics
         +  clear
   +  statistics
      +  clear
+  policers
   +  policer name string
      +  statistics
         +  clear
   +  system-cpu-policer name string
      +  statistics
         +  clear
```

11.1 acl Descriptions

acl

Description	Top level enclosing container for ACL operational tools
Context	acl
Tree	acl
Configurable	True
Platforms	Supported on all platforms

cpm-filter

Description	List of CPM filters
Context	acl cpm-filter
Tree	cpm-filter
Configurable	True
Platforms	Supported on all platforms

ipv4-filter

Description	List of CPM IPv4 filter rules
Context	acl cpm-filter ipv4-filter
Tree	ipv4-filter
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics of all entries of the filter to zero
Context	acl cpm-filter ipv4-filter clear
Tree	clear
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*
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics associated with this particular entry to zero
Context	acl cpm-filter ipv4-filter entry sequence-id *number* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

ipv6-filter

Description	List of CPM IPv6 filter rules
Context	acl cpm-filter ipv6-filter
Tree	ipv6-filter

Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics of all entries of the filter to zero
Context	acl cpm-filter ipv6-filter clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

entry sequence-id *number*

Description	List of filter rules.
Context	acl cpm-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 cpm-filter ipv6-filter entry sequence-id *number*
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics associated with this particular entry to zero
Context	acl cpm-filter ipv6-filter entry sequence-id *number* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

ipv4-filter name *string*

Description	List of IPv4 filter policies
Context	acl ipv4-filter name *string*
Tree	ipv4-filter
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the IPv4 filter policy.
Context	acl ipv4-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 ipv4-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 ipv4-filter name *string* entry sequence-id *number*

Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all aggregate and per-interface statistics associated with this particular entry to zero
Context	acl ipv4-filter name *string* entry sequence-id *number* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl ipv4-filter name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics of all entries of the filter to zero
Context	acl ipv4-filter name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

ipv6-filter name *string*

Description	List of IPv6 filter policies
Context	acl ipv6-filter name *string*
Tree	ipv6-filter
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the IPv6 filter policy.
Context	acl ipv6-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 ipv6-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 ipv6-filter name *string* entry sequence-id *number*
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics
Tree	statistics

Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all aggregate and per-interface statistics associated with this particular entry to zero
Context	acl ipv6-filter name *string* entry sequence-id *number* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl ipv6-filter name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics of all entries of the filter to zero
Context	acl ipv6-filter name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

policers

Description	List of policers used by ACL entries
Context	acl policers
Tree	policers
Configurable	True
Platforms	Supported on all platforms

policer name *string*

Description	List of hardware policers
Context	acl policers policer name *string*
Tree	policer
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the hardware policer
Context	acl policers policer name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl policers policer name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics associated with this particular policer to zero
Context	acl policers policer name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

system-cpu-policer name *string*

Description	List of system CPU policers
Context	acl policers system-cpu-policer name *string*

Tree	system-cpu-policer
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the system cpu policer
Context	acl policers system-cpu-policer name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	acl policers system-cpu-policer name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all statistics associated with this particular policer to zero
Context	acl policers system-cpu-policer name *string* statistics clear
Tree	clear
Configurable	True
Platforms	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

Description	Top-level grouping for bfd operational commands
Context	bfd
Tree	bfd
Configurable	True
Platforms	Supported on all platforms

micro-bfd-sessions

Description	Enter the micro-bfd-sessions context
Context	bfd micro-bfd-sessions
Tree	micro-bfd-sessions
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lag-interface name *string*

Description	Lag interface against which the clear command is to be executed
Context	bfd micro-bfd-sessions lag-interface name *string*
Tree	lag-interface
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Reference ID for associated lag interface Example: lag1 (Reference Interface lag1).
Context	bfd micro-bfd-sessions lag-interface name *string*
String Length	3 to 20

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

member-interface name *string*

Description	List of member-interfaces to be cleared
Context	bfd micro-bfd-sessions lag-interface name *string* member-interface name *string*
Tree	member-interface
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Reference ID for associated interface Example: ethernet-2/1 (Reference Interface ethernet-2/1).
Context	bfd micro-bfd-sessions lag-interface name *string* member-interface name *string*
String Length	3 to 20
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear the associated micro-BFD sessions Clearing a micro-BFD sessions causes the associated sessions to transition to a Down state
Context	bfd micro-bfd-sessions lag-interface name *string* member-interface name *string* clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	bfd micro-bfd-sessions statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lag-interface name *string*

Description	Lag interface against which the clear command is to be executed
Context	bfd micro-bfd-sessions statistics lag-interface name *string*
Tree	lag-interface
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Reference ID for associated lag interface Example: lag1 (Reference Interface lag1).
Context	bfd micro-bfd-sessions statistics lag-interface name *string*
String Length	3 to 20
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

member-interface name *string*

Description	List of member-interfaces to be cleared
Context	bfd micro-bfd-sessions statistics lag-interface name *string* member-interface name *string*
Tree	member-interface
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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*

Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear the associated BFD sessions Clearing a BFD sessions causes the associated BFD sessions ot transition to a Down state
Context	bfd peer local-discriminator *number* clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	bfd statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

peer local-discriminator *number*

Description	The list of local-discriminators associated with BFD
Context	bfd statistics peer local-discriminator *number*
Tree	peer
Configurable	True
Platforms	Supported on all platforms

local-discriminator *number*

Description	BFD session local discriminator
Context	bfd statistics peer local-discriminator *number*
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear the BFD statistics associated with the BFD sessions
Context	bfd statistics peer local-discriminator *number* clear
Tree	clear
Configurable	True
Platforms	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
   +  statistics
      +  clear
```

13.1 interface Descriptions

interface name *string*

Description	The list of named interfaces on the device.
Context	interface name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	References the configured name of the interface
Context	interface name *string*
Configurable	True
Platforms	Supported on all platforms

ethernet

Description	Enter the ethernet context
Context	interface name *string* ethernet
Tree	ethernet
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	interface name *string* ethernet statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear interface ethernet statistics
Context	interface name *string* ethernet statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

include-members

Description	Causes the member link ethernet statistics to also be cleared
Context	interface name *string* ethernet statistics clear include-members
Tree	include-members
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

qos

Description	Enter the qos context
Context	interface name *string* qos
Tree	qos
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

output

Description	Enter the output context
Context	interface name *string* qos output
Tree	output
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

queue-statistics

Description	Enter the queue-statistics context

Context	interface name *string* qos output queue-statistics
Tree	queue-statistics
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

clear

Description	Enter the clear context
Context	interface name *string* qos output queue-statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

queue queue-name *string*

Description	List of queues
Context	interface name *string* qos output queue-statistics queue queue-name *string*
Tree	queue
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

queue-name *string*

Description	The queue name
Context	interface name *string* qos output queue-statistics queue queue-name *string*
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

clear

Description	Enter the clear context
Context	interface name *string* qos output queue-statistics queue queue-name *string* clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

resource

Description	Enable the resource context
Context	interface name *string* resource
Tree	resource
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

retry

Description	Causes the specified lag to be reevaluate for missing system resources
Context	interface name *string* resource retry
Tree	retry
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	interface name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear interface statistics
Context	interface name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

include-members

Description	Causes the member link statistics to also be cleared
Context	interface name *string* statistics clear include-members
Tree	include-members
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

subinterface index *number*

Description	The list of subinterfaces (logical interfaces) associated with a physical interface
Context	interface name *string* subinterface index *number*
Tree	subinterface
Configurable	True
Platforms	Supported on all platforms

index *number*

Description	The index of the subinterface, or logical interface number
Context	interface name *string* subinterface index *number*
Configurable	True
Platforms	Supported on all platforms

bridge-table

Description	Enter the bridge-table context
Context	interface name *string* subinterface index *number* bridge-table
Tree	bridge-table
Configurable	True
Platforms	Supported on all platforms

mac-duplication

Description	Enable the mac-duplication context

Context	interface name *string* subinterface index *number* bridge-table mac-duplication
Tree	mac-duplication
Configurable	True
Platforms	Supported on all platforms

delete-all-macs

Description	Delete all learnt mac entries.
Context	interface name *string* subinterface index *number* bridge-table mac-duplication delete-all-macs
Tree	delete-all-macs
Configurable	True
Platforms	Supported on all platforms

duplicate-entries

Description	Enter the duplicate-entries context
Context	interface name *string* subinterface index *number* bridge-table mac-duplication duplicate-entries
Tree	duplicate-entries
Configurable	True
Platforms	Supported on all platforms

mac address *string*

Description	macs learnt on the bridging instance
Context	interface name *string* subinterface index *number* bridge-table mac-duplication duplicate-entries mac address *string*
Tree	mac
Configurable	True
Platforms	Supported on all platforms

address *string*

Description	Enter the address context

Context	interface name *string* subinterface index *number* bridge-table mac-duplication duplicate-entries mac address *string*
Configurable	True
Platforms	Supported on all platforms

delete-mac

Description	delete the duplicate mac address.
Context	interface name *string* subinterface index *number* bridge-table mac-duplication duplicate-entries mac address *string* delete-mac
Tree	delete-mac
Configurable	True
Platforms	Supported on all platforms

mac-learning

Description	Enable the mac-learning context
Context	interface name *string* subinterface index *number* bridge-table mac-learning
Tree	mac-learning
Configurable	True
Platforms	Supported on all platforms

delete-all-macs

Description	Delete all learnt mac entries.
Context	interface name *string* subinterface index *number* bridge-table mac-learning delete-all-macs
Tree	delete-all-macs
Configurable	True
Platforms	Supported on all platforms

learnt-entries

Description	Enter the learnt-entries context
Context	interface name *string* subinterface index *number* bridge-table mac-learning learnt-entries
Tree	learnt-entries

Configurable	True
Platforms	Supported on all platforms

mac address *string*

Description	macs learnt on the bridging instance
Context	interface name *string* subinterface index *number* bridge-table mac-learning learnt-entries mac address *string*
Tree	mac
Configurable	True
Platforms	Supported on all platforms

address *string*

Description	Enter the address context
Context	interface name *string* subinterface index *number* bridge-table mac-learning learnt-entries mac address *string*
Configurable	True
Platforms	Supported on all platforms

delete-mac

Description	delete the learnt mac address.
Context	interface name *string* subinterface index *number* bridge-table mac-learning learnt-entries mac address *string* delete-mac
Tree	delete-mac
Configurable	True
Platforms	Supported on all platforms

ipv4

Description	Enter the ipv4 context
Context	interface name *string* subinterface index *number* ipv4
Tree	ipv4
Configurable	True
Platforms	Supported on all platforms

address ip-prefix *string*

Description	Enter the address list instance
Context	interface name *string* subinterface index *number* ipv4 address ip-prefix *string*
Tree	address
Configurable	True
Platforms	Supported on all platforms

ip-prefix *string*

Description	Enter the ip-prefix context
Context	interface name *string* subinterface index *number* ipv4 address ip-prefix *string*
Configurable	True
Platforms	Supported on all platforms

arp

Description	Enable the arp context
Context	interface name *string* subinterface index *number* ipv4 arp
Tree	arp
Configurable	True
Platforms	Supported on all platforms

delete-dynamic

Description	Delete all dynamic ARP entries
Context	interface name *string* subinterface index *number* ipv4 arp delete-dynamic
Tree	delete-dynamic
Configurable	True
Platforms	Supported on all platforms

neighbor ipv4-address *string*

Description	Enter the neighbor list instance
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string*

Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

ipv4-address *string*

Description	IPv4 address resolved by the ARP entry
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string*
Configurable	True
Platforms	Supported on all platforms

delete-dynamic

Description	Delete one specific dynamic ARP entry
Context	interface name *string* subinterface index *number* ipv4 arp neighbor ipv4-address *string* delete-dynamic
Tree	delete-dynamic
Configurable	True
Platforms	Supported on all platforms

virtual-ipv4-discovery

Description	Enter the virtual-ipv4-discovery context
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery
Tree	virtual-ipv4-discovery
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address ipv4-address *string*

Description	The list of Virtual IP addresses
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string*
Tree	address

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string* statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clears the statistics for the Virtual IP addresses
Context	interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery address ipv4-address *string* statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description Enter the statistics context

Context interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery statistics

Tree statistics

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description Clears the global statistics for all the Virtual IP addresses

Context interface name *string* subinterface index *number* ipv4 arp virtual-ipv4-discovery statistics clear

Tree clear

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

dhcp-relay

Description Enable the dhcp-relay context

Context interface name *string* subinterface index *number* ipv4 dhcp-relay

Tree dhcp-relay

Configurable True

Platforms Supported on all platforms

statistics

Description Enter the statistics context

Context interface name *string* subinterface index *number* ipv4 dhcp-relay statistics

Tree statistics

Configurable True

Platforms Supported on all platforms

clear

Description	Enter the clear context
Context	interface name *string* subinterface index *number* ipv4 dhcp-relay statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

ipv6

Description	Enter the ipv6 context
Context	interface name *string* subinterface index *number* ipv6
Tree	ipv6
Configurable	True
Platforms	Supported on all platforms

address ip-prefix *string*

Description	Enter the address list instance
Context	interface name *string* subinterface index *number* ipv6 address ip-prefix *string*
Tree	address
Configurable	True
Platforms	Supported on all platforms

ip-prefix *string*

Description	Enter the ip-prefix context
Context	interface name *string* subinterface index *number* ipv6 address ip-prefix *string*
Configurable	True
Platforms	Supported on all platforms

dhcp-relay

Description	Enable the dhcp-relay context
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay
Tree	dhcp-relay

Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Enter the clear context
Context	interface name *string* subinterface index *number* ipv6 dhcp-relay statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

neighbor-discovery

Description	Enable the neighbor-discovery context
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery
Tree	neighbor-discovery
Configurable	True
Platforms	Supported on all platforms

delete-dynamic

Description	Delete all dynamic neighbor cache entries
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery delete-dynamic
Tree	delete-dynamic
Configurable	True
Platforms	Supported on all platforms

neighbor ipv6-address *string*

Description	Enter the neighbor list instance
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string*
Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

ipv6-address *string*

Description	IPv6 address resolved by the ND cache entry
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string*
Configurable	True
Platforms	Supported on all platforms

delete-dynamic

Description	Delete one specific dynamic neighbor cache entry
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery neighbor ipv6-address *string* delete-dynamic
Tree	delete-dynamic
Configurable	True
Platforms	Supported on all platforms

virtual-ipv6-discovery

Description	Enter the virtual-ipv6-discovery context
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery
Tree	virtual-ipv6-discovery
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

address ipv6-address *string*

Description	The list of Virtual IP addresses
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string*
Tree	address
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string* statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clears the statistics for the Virtual IP addresses
Context	interface name *string* subinterface index *number* ipv6 neighbor-discovery virtual-ipv6-discovery address ipv6-address *string* statistics clear
Tree	clear
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Tree	input
Configurable	True
Platforms	Supported on all platforms

policer-templates

Description	Enter the policer-templates context
Context	interface name *string* subinterface index *number* qos input policer-templates
Tree	policer-templates
Configurable	True
Platforms	Supported on all platforms

clear

Description	Enter the clear context
Context	interface name *string* subinterface index *number* qos input policer-templates clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

policer index *number*

Description	The list of policer instances belonging to the template definition.
Context	interface name *string* subinterface index *number* qos input policer-templates policer index *number*
Tree	policer
Configurable	True
Platforms	Supported on all platforms

index *number*

Description	The policer index
Context	interface name *string* subinterface index *number* qos input policer-templates policer index *number*
Range	1 to 32
Configurable	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

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
+  traffic-engineering-policies
   +  policy policy-name string
      +  segment-list segment-list-index number
         +  clear
         +  resignal
```

14.1 network-instance Descriptions

network-instance name *string*

Description	Enter the network-instance list instance
Context	network-instance name *string*
Tree	network-instance
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	A unique name identifying the network instance
Context	network-instance name *string*
Configurable	True
Platforms	Supported on all platforms

bridge-table

Description	bridge-table
Context	network-instance name *string* bridge-table
Tree	bridge-table
Configurable	True
Platforms	Supported on all platforms

mac-duplication

Description	Enable the mac-duplication context
Context	network-instance name *string* bridge-table mac-duplication
Tree	mac-duplication
Configurable	True
Platforms	Supported on all platforms

delete-macs-type *keyword*

Description	Type of duplicate mac entries to delete.
Context	network-instance name *string* bridge-table mac-duplication delete-macs-type *keyword*
Tree	delete-macs-type
Options	• all • blackhole-only
Configurable	True
Platforms	Supported on all platforms

duplicate-entries

Description	Enter the duplicate-entries context
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries
Tree	duplicate-entries
Configurable	True
Platforms	Supported on all platforms

mac address *string*

Description	macs learnt on the bridging instance
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string*
Tree	mac
Configurable	True
Platforms	Supported on all platforms

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string*
Configurable	True
Platforms	Supported on all platforms

delete-mac

Description	delete the duplicate mac address.
Context	network-instance name *string* bridge-table mac-duplication duplicate-entries mac address *string* delete-mac
Tree	delete-mac
Configurable	True
Platforms	Supported on all platforms

mac-learning

Description	Enable the mac-learning context
Context	network-instance name *string* bridge-table mac-learning
Tree	mac-learning
Configurable	True
Platforms	Supported on all platforms

delete-all-macs

Description	Delete all learnt mac entries.
Context	network-instance name *string* bridge-table mac-learning delete-all-macs
Tree	delete-all-macs
Configurable	True
Platforms	Supported on all platforms

learnt-entries

Description	Enter the learnt-entries context
Context	network-instance name *string* bridge-table mac-learning learnt-entries
Tree	learnt-entries
Configurable	True
Platforms	Supported on all platforms

mac address *string*

Description	macs learnt on the bridging instance

Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string*
Tree	mac
Configurable	True
Platforms	Supported on all platforms

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string*
Configurable	True
Platforms	Supported on all platforms

delete-mac

Description	delete the learnt mac address.
Context	network-instance name *string* bridge-table mac-learning learnt-entries mac address *string* delete-mac
Tree	delete-mac
Configurable	True
Platforms	Supported on all platforms

proxy-arp

Description	Enable the proxy-arp context
Context	network-instance name *string* bridge-table proxy-arp
Tree	proxy-arp
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

duplicate

Description	Enable the duplicate context
Context	network-instance name *string* bridge-table proxy-arp duplicate
Tree	duplicate

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

delete-all

Description	Delete all entries.
Context	network-instance name *string* bridge-table proxy-arp duplicate delete-all
Tree	delete-all
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

entry address *string*

Description	proxy-arp entry to delete
Context	network-instance name *string* bridge-table proxy-arp duplicate entry address *string*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table proxy-arp duplicate entry address *string*
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

delete-ip

Description	delete the proxy entry.
Context	network-instance name *string* bridge-table proxy-arp duplicate entry address *string* delete-ip
Tree	delete-ip

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dynamic

Description	Enable the dynamic context
Context	network-instance name *string* bridge-table proxy-arp dynamic
Tree	dynamic
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

delete-all

Description	Delete all entries.
Context	network-instance name *string* bridge-table proxy-arp dynamic delete-all
Tree	delete-all
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

entry address *string*

Description	proxy-arp entry to delete
Context	network-instance name *string* bridge-table proxy-arp dynamic entry address *string*
Tree	entry
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	network-instance name *string* bridge-table proxy-arp dynamic entry address *string*
Configurable	True

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

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

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

duplicate

Description	Enable the duplicate context
Context	network-instance name *string* bridge-table proxy-nd duplicate
Tree	duplicate
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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

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

dynamic

Description	Enable the dynamic context
Context	network-instance name *string* bridge-table proxy-nd dynamic
Tree	dynamic
Configurable	True

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

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

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

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

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

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

icmp

Description	Enter the icmp context
Context	network-instance name *string* icmp
Tree	icmp
Configurable	True
Platforms	Supported on all platforms

statistics

Description	ICMP version 4 statistics
Context	network-instance name *string* icmp statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Resets all the YANG state counters under network-instance/icmp/statistics to zero
Context	network-instance name *string* icmp statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

icmp6

Description	Enter the icmp6 context
Context	network-instance name *string* icmp6
Tree	icmp6
Configurable	True
Platforms	Supported on all platforms

statistics

Description	ICMP version 6 statistics
Context	network-instance name *string* icmp6 statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Resets all the YANG state counters under network-instance/icmp6/statistics to zero
Context	network-instance name *string* icmp6 statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

protocols

Description	The routing protocols that are enabled for this network-instance.
Context	network-instance name *string* protocols
Tree	protocols
Configurable	True
Platforms	Supported on all platforms

bgp

Description	Enable the bgp context
Context	network-instance name *string* protocols bgp
Tree	bgp
Configurable	True
Platforms	Supported on all platforms

group group-name *string*

Description	Enter the group list instance
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 255
Configurable	True
Platforms	Supported on all platforms

reset-peer

Description	Enable the reset-peer context
Context	network-instance name *string* protocols bgp group group-name *string* reset-peer
Tree	reset-peer
Configurable	True
Platforms	Supported on all platforms

peer-as *number*

Description	Hard reset only BGP peers in the peer-group that have the specified peer-AS number, whether they are configured peers or dynamic peers
Context	network-instance name *string* protocols bgp group group-name *string* reset-peer peer-as *number*
Tree	peer-as
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

soft-clear

Description	Enable the soft-clear context
Context	network-instance name *string* protocols bgp group group-name *string* soft-clear

Tree	soft-clear
Configurable	True
Platforms	Supported on all platforms

peer-as *number*

Description	Soft reset only BGP peers in the peer-group that have the specified peer-AS number, whether they are configured peers or dynamic peers
Context	network-instance name *string* protocols bgp group group-name *string* soft-clear peer-as *number*
Tree	peer-as
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

route-refresh *keyword*

Description	The address family to refresh This is encoded in the ROUTE_REFRESH message. By default all families are refreshed.
Context	network-instance name *string* protocols bgp group group-name *string* soft-clear route-refresh *keyword*
Tree	route-refresh
Options	• ipv4-unicast • ipv6-unicast • evpn
Configurable	True
Platforms	Supported on all platforms

neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description	Enter the neighbor list instance
Context	network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*
Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Description 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.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)*

Configurable True

Platforms Supported on all platforms

reset-peer

Description Hard reset the peer

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* reset-peer

Tree reset-peer

Configurable True

Platforms Supported on all platforms

soft-clear

Description Enable the soft-clear context

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* soft-clear

Tree soft-clear

Configurable True

Platforms Supported on all platforms

route-refresh *keyword*

Description The address family to refresh

This is encoded in the ROUTE_REFRESH message. By default all families are refreshed.

Context network-instance name *string* protocols bgp neighbor peer-address *(ipv4-address-with-zone | ipv6-address-with-zone)* soft-clear route-refresh *keyword*

Tree route-refresh

Options

- ipv4-unicast

- ipv6-unicast
- evpn

Configurable True

Platforms Supported on all platforms

reset-peer

Description Enable the reset-peer context

Context network-instance name *string* protocols bgp reset-peer

Tree reset-peer

Configurable True

Platforms Supported on all platforms

peer-as *number*

Description Hard reset only BGP peers that have the specified peer-AS number, whether they are configured peers or dynamic peers

Context network-instance name *string* protocols bgp reset-peer peer-as *number*

Tree peer-as

Range 1 to 4294967295

Configurable True

Platforms Supported on all platforms

soft-clear

Description Enable the soft-clear context

Context network-instance name *string* protocols bgp soft-clear

Tree soft-clear

Configurable True

Platforms Supported on all platforms

peer-as *number*

Description Soft reset only BGP peers that have the specified peer-AS number, whether they are configured peers or dynamic peers

Context network-instance name *string* protocols bgp soft-clear peer-as *number*

Tree	peer-as
Range	1 to 4294967295
Configurable	True
Platforms	Supported on all platforms

route-refresh *keyword*

Description	The address family to refresh This is encoded in the ROUTE_REFRESH message. By default all families are refreshed.
Context	network-instance name *string* protocols bgp soft-clear route-refresh *keyword*
Tree	route-refresh
Options	• ipv4-unicast • ipv6-unicast • evpn
Configurable	True
Platforms	Supported on all platforms

isis

Description	Enable the isis context
Context	network-instance name *string* protocols isis
Tree	isis
Configurable	True
Platforms	Supported on all platforms

instance name *string*

Description	List of IS-IS protocol instances associated with this network-instance. Only a single instance is supported for now
Context	network-instance name *string* protocols isis instance name *string*
Tree	instance
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

name *string*

Description	The name of the IS-IS instance
Context	network-instance name *string* protocols isis instance name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

interface interface-name *string*

Description	List of IS-IS interfaces
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

interface-name *string*

Description	Reference to a specific subinterface of the form <interface-name>.<subinterface-index>
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

adjacencies

Description	Enter the adjacencies context
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacencies
Tree	adjacencies
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all of the adjacencies on this interface
Context	network-instance name *string* protocols isis instance name *string* interface interface-name *string* adjacencies clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

ldp-synchronization

Description	IS-IS LDP-IGP synchronisation
Context	network-instance name *string* protocols isis instance name *string* ldp-synchronization
Tree	ldp-synchronization
Configurable	True
Platforms	Supported on all platforms

exit

Description	Advertise the norrmal 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
Context	network-instance name *string* protocols isis instance name *string* ldp-synchronization exit
Tree	exit
Configurable	True
Platforms	Supported on all platforms

link-state-database

Description	The ISIS link state database
Context	network-instance name *string* protocols isis instance name *string* link-state-database
Tree	link-state-database
Configurable	True
Platforms	Supported on all platforms

clear

Description Clear the contents of the LSDB.

Context network-instance name *string* protocols isis instance name *string* link-state-database clear

Tree clear

Configurable True

Platforms Supported on all platforms

statistics

Description Enter the statistics context

Context network-instance name *string* protocols isis instance name *string* statistics

Tree statistics

Configurable True

Platforms Supported on all platforms

clear

Description Reset all of the IS-IS instance statistics to zero.

Context network-instance name *string* protocols isis instance name *string* statistics clear

Tree clear

Configurable True

Platforms Supported on all platforms

ldp

Description Operational tools commands for LDP.

Context network-instance name *string* protocols ldp

Tree ldp

Configurable True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

discovery

Description Enter the discovery context

Context	network-instance name *string* protocols ldp discovery
Tree	discovery
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interfaces

Description	Enter the interfaces context
Context	network-instance name *string* protocols ldp discovery interfaces
Tree	interfaces
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface name *string*

Description	Enter the interface list instance
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string*
Tree	interface
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

name *string*

Description	Reference type to a specific subinterface of the form <interface-name>.<subinterface-index>
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string*
String Length	5 to 25
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ipv4

Description	Enter the ipv4 context
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4

Tree	ipv4
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics
Tree	statistics
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Resets all the LDP interface IPv4 counters to zero
Context	network-instance name *string* protocols ldp discovery interfaces interface name *string* ipv4 statistics clear
Tree	clear
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peers

Description	Enter the peers context
Context	network-instance name *string* protocols ldp peers
Tree	peers
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

peer lsr-id *string* label-space-id *number*

Description	List of peers.
Context	network-instance name *string* protocols ldp peers peer lsr-id *string* label-space-id *number*
Tree	peer
Configurable	True

Platforms 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

lsr-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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	network-instance name *string* protocols ldp statistics
Tree	statistics
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

ospf

Description	Enable the ospf context
Context	network-instance name *string* protocols ospf
Tree	ospf
Configurable	True
Platforms	Supported on all platforms

instance name *string*

Description	List of OSPF protocol instances associated with this network-instance. Only a single instance is supported for now
Context	network-instance name *string* protocols ospf instance name *string*
Tree	instance
Configurable	True
Platforms	Supported on all platforms
Max. Elements	1

name *string*

Description	The name of the OSPF instance
Context	network-instance name *string* protocols ospf instance name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

area area-id

Description	List of OSPF area
Context	network-instance name *string* protocols ospf instance name *string* area area-id
Tree	area
Configurable	True
Platforms	Supported on all platforms

area-id

Description	Enter the area-id context
Context	network-instance name *string* protocols ospf instance name *string* area area-id
Configurable	True
Platforms	Supported on all platforms

interface interface-name *string*

Description	List of OSPF interfaces
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

interface-name *string*

Description	Reference to a specific subinterface of the form <interface-name>.<subinterface-index>
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string*
String Length	5 to 25
Configurable	True
Platforms	Supported on all platforms

neighbors

Description	Enter the neighbors context
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbors
Tree	neighbors
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all of the adjacencies on this interface
Context	network-instance name *string* protocols ospf instance name *string* area area-id interface interface-name *string* neighbors clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

ldp-synchronization

Description	Enter the ldp-synchronization context
Context	network-instance name *string* protocols ospf instance name *string* ldp-synchronization
Tree	ldp-synchronization
Configurable	True
Platforms	Supported on all platforms

exit

Description	Advertise the norrmal metric for all OSPF interfaces, even if some are configured for LDP synchronization and OSPF is not in sync with LDP on these interfaces
Context	network-instance name *string* protocols ospf instance name *string* ldp-synchronization exit
Tree	exit
Configurable	True
Platforms	Supported on all platforms

link-state-database

Description	The OSPF link state database
Context	network-instance name *string* protocols ospf instance name *string* link-state-database
Tree	link-state-database
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear the contents of the LSDB.
Context	network-instance name *string* protocols ospf instance name *string* link-state-database clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

manual-spf

Description	Enter the manual-spf context
Context	network-instance name *string* protocols ospf instance name *string* manual-spf
Tree	manual-spf
Configurable	True
Platforms	Supported on all platforms

run

Description	Run a SPF calculation.
Context	network-instance name *string* protocols ospf instance name *string* manual-spf run
Tree	run
Configurable	True
Platforms	Supported on all platforms

neighbors

Description	Container for OSPF neighbors tools
Context	network-instance name *string* protocols ospf instance name *string* neighbors
Tree	neighbors
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear all OSPF neighbors

Context	network-instance name *string* protocols ospf instance name *string* neighbors clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

neighbor neighbor-id

Description	Enter the neighbor list instance
Context	network-instance name *string* protocols ospf instance name *string* neighbors neighbor neighbor-id
Tree	neighbor
Configurable	True
Platforms	Supported on all platforms

neighbor-id

Description	The neighbor's ip-address in case of OSPFv2, the router-id otherwise
Context	network-instance name *string* protocols ospf instance name *string* neighbors neighbor neighbor-id
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset this neighbor in the OSPF instance
Context	network-instance name *string* protocols ospf instance name *string* neighbors neighbor neighbor-id clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

overload

Description	Enter the overload context
Context	network-instance name *string* protocols ospf instance name *string* overload
Tree	overload

Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset OSPF instance overload status.
Context	network-instance name *string* protocols ospf instance name *string* overload clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	network-instance name *string* protocols ospf instance name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Reset all of the OSPF instance statistics to zero.
Context	network-instance name *string* protocols ospf instance name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

traffic-engineering-policies

Description	Enter the traffic-engineering-policies context
Context	network-instance name *string* traffic-engineering-policies
Tree	traffic-engineering-policies
Configurable	True
Platforms	Supported on all platforms

policy policy-name *string*

Description	List of traffic engineering policies
Context	network-instance name *string* traffic-engineering-policies policy policy-name *string*
Tree	policy
Configurable	True
Platforms	Supported on all platforms

policy-name *string*

Description	The name of the traffic engineering policy
Context	network-instance name *string* traffic-engineering-policies policy policy-name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

segment-list segment-list-index *number*

Description	Enter the segment-list list instance
Context	network-instance name *string* traffic-engineering-policies policy policy-name *string* segment-list segment-list-index *number*
Tree	segment-list
Configurable	True
Platforms	Supported on all platforms

segment-list-index *number*

Description	Index to enumerate the different segment lists of a TE policy.
Context	network-instance name *string* traffic-engineering-policies policy policy-name *string* segment-list segment-list-index *number*
Range	1 to 32
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear segment-list
Context	network-instance name *string* traffic-engineering-policies policy policy-name *string* segment-list segment-list-index *number* clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

resignal

Description	Trigger resignal for segment-list
Context	network-instance name *string* traffic-engineering-policies policy policy-name *string* segment-list segment-list-index *number* resignal
Tree	resignal
Configurable	True
Platforms	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
+  trust
   +  secure-boot
      +  control slot string
         +  activate
            +  confirmation-code string
            +  serial-number string
         +  revoke
```

```
            +  confirmation-code string
            +  serial-number string
          +  update
            +  confirmation-code string
            +  serial-number string
```

15.1 platform Descriptions

platform

Description	Top-level container for platform operational commands
Context	platform
Tree	platform
Configurable	True
Platforms	Supported on all platforms

chassis

Description	Operational commands related to the chassis
Context	platform chassis
Tree	chassis
Configurable	True
Platforms	Supported on all platforms

reboot

Description	Trigger a reboot of the chassis
Context	platform chassis reboot
Tree	reboot
Configurable	True
Platforms	Supported on all platforms

cancel

Description	Cancels a pending reboot on this component
Context	platform chassis reboot cancel
Tree	cancel
Configurable	True
Platforms	Supported on all platforms

delay *number*

Description	The amount of time to delay the reboot During this period, the reboot can be cancelled.
Context	platform chassis reboot delay *number*
Tree	delay
Units	seconds
Configurable	True
Platforms	Supported on all platforms

force

Description	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
Context	platform chassis reboot force
Tree	force
Configurable	True
Platforms	Supported on all platforms

message *string*

Description	A user-defined message to broadcoast to other users of the system
Context	platform chassis reboot message *string*
Tree	message
Configurable	True
Platforms	Supported on all platforms

warm

Description	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.
Context	platform chassis reboot warm
Tree	warm

Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

force

Description	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.
Context	platform chassis reboot warm force
Tree	force
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

validate

Description	Validate that the system's current configuration and state supports a warm reboot operation
Context	platform chassis reboot warm validate
Tree	validate
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

control slot *string*

Description	Operational commands related to control modules
Context	platform control slot *string*
Tree	control
Configurable	True
Platforms	Supported on all platforms

slot *string*

Description	Slot identifier for the control module
Context	platform control slot *string*
Configurable	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

Description	Trigger or a reboot of this component
Context	platform control slot *string* reboot
Tree	reboot
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

cancel

Description	Cancels a pending reboot on this component
Context	platform control slot *string* reboot cancel
Tree	cancel
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description	The amount of time to delay the reboot During this period, the reboot can be cancelled.
Context	platform control slot *string* reboot delay *number*
Tree	delay
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

force

Description	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
Context	platform control slot *string* reboot force
Tree	force
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

message *string*

Description	A user-defined message to broadcoast to other users of the system
Context	platform control slot *string* reboot message *string*
Tree	message
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fabric slot *number*

Description	Operational commands related to fabric modules
Context	platform fabric slot *number*
Tree	fabric
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *number*

Description	Numeric identifier for the fabric module
Context	platform fabric slot *number*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

locator

Description	Operational commands for the locator LED
Context	platform fabric slot *number* locator
Tree	locator
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

disable

Description	Deactivates the locator LED for this component
Context	platform fabric slot *number* locator disable
Tree	disable

Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

enable

Description	Activate the locator LED for this component
Context	platform fabric slot *number* locator enable
Tree	enable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

duration *number*

Description	Sets the duration to activate the locator LED, after which it will disable automatically
Context	platform fabric slot *number* locator enable duration *number*
Tree	duration
Range	10 to 3600
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

reboot

Description	Trigger or a reboot of this component
Context	platform fabric slot *number* reboot
Tree	reboot
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

cancel

Description	Cancels a pending reboot on this component
Context	platform fabric slot *number* reboot cancel
Tree	cancel
Configurable	True

Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

message *string*

Description	A user-defined message to broadcoast to other users of the system
Context	platform fabric slot *number* reboot message *string*
Tree	message
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

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

Description	Operational commands for the locator LED
Context	platform fan-tray id *number* locator
Tree	locator
Configurable	True
Platforms	Supported on all platforms

disable

Description	Deactivates the locator LED for this component
Context	platform fan-tray id *number* locator disable
Tree	disable
Configurable	True
Platforms	Supported on all platforms

enable

Description	Activate the locator LED for this component
Context	platform fan-tray id *number* 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 fan-tray id *number* locator enable duration *number*
Tree	duration
Range	10 to 3600
Units	seconds
Configurable	True
Platforms	Supported on all platforms

linecard slot *number*

Description	Operational commands related to line cards
Context	platform linecard slot *number*
Tree	linecard
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *number*

Description	Numeric identifier for the line card
Context	platform linecard slot *number*
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

locator

Description	Operational commands for the locator LED
Context	platform linecard slot *number* locator
Tree	locator
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

disable

Description	Deactivates the locator LED for this component
Context	platform linecard slot *number* locator disable
Tree	disable
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

enable

Description	Activate the locator LED for this component
Context	platform linecard slot *number* locator enable
Tree	enable

Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

duration *number*

Description	Sets the duration to activate the locator LED, after which it will disable automatically
Context	platform linecard slot *number* locator enable duration *number*
Tree	duration
Range	10 to 3600
Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

reboot

Description	Trigger or a reboot of this component
Context	platform linecard slot *number* reboot
Tree	reboot
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

cancel

Description	Cancels a pending reboot on this component
Context	platform linecard slot *number* reboot cancel
Tree	cancel
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

delay *number*

Description	The amount of time to delay the reboot During this period, the reboot can be cancelled.
Context	platform linecard slot *number* reboot delay *number*
Tree	delay

Units	seconds
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

message *string*

Description	A user-defined message to broadcast to other users of the system
Context	platform linecard slot *number* reboot message *string*
Tree	message
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

redundancy

Description	Top-level container for redundancy operational commands
Context	platform redundancy
Tree	redundancy
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

switchover

Description	Trigger a redundancy switchover to the other control module
Context	platform redundancy switchover
Tree	switchover
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

synchronize

Description	Top-level container for manual synchronization activies
Context	platform redundancy synchronize
Tree	synchronize
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

overlay

Description	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
Context	platform redundancy synchronize overlay
Tree	overlay
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

system

Description	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
Context	platform redundancy synchronize system
Tree	system
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

show-fabric-bandwidth

Description	Show fabric bandwidth
Context	platform show-fabric-bandwidth
Tree	show-fabric-bandwidth
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

trust

Description	Operational commands related to Platform Trust
Context	platform trust
Tree	trust
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

secure-boot

Description	Secure Boot operational commands
Context	platform trust secure-boot
Tree	secure-boot
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

control slot *string*

Description	Operational commands related Secure Boot for control modules
Context	platform trust secure-boot control slot *string*
Tree	control
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

slot *string*

Description	Slot identifier for the control module
Context	platform trust secure-boot control slot *string*
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

activate

Description	Activate Secure Boot
Context	platform trust secure-boot control slot *string* activate
Tree	activate
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

confirmation-code *string*

Description	Indicates the secure-boot command confirmation-code
Context	platform trust secure-boot control slot *string* activate confirmation-code *string*
Tree	confirmation-code

Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

serial-number *string*

Description	Indicates the serial-number of the control module
Context	platform trust secure-boot control slot *string* activate serial-number *string*
Tree	serial-number
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

revoke

Description	Update UEFI Secure Boot forbidden database (dbx), Key Exchange Key (KEK), Platform Key (PK)
Context	platform trust secure-boot control slot *string* revoke
Tree	revoke
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

confirmation-code *string*

Description	Indicates the secure-boot command confirmation-code
Context	platform trust secure-boot control slot *string* revoke confirmation-code *string*
Tree	confirmation-code
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

serial-number *string*

Description	Indicates the serial-number of the control module
Context	platform trust secure-boot control slot *string* revoke serial-number *string*
Tree	serial-number
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

update

Description	Update UEFI Secure Boot authorized database (db), Key Exchange Key (KEK), Platform Key (PK)
Context	platform trust secure-boot control slot *string* update
Tree	update
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

confirmation-code *string*

Description	Indicates the secure-boot command confirmation-code
Context	platform trust secure-boot control slot *string* update confirmation-code *string*
Tree	confirmation-code
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

serial-number *string*

Description	Indicates the serial-number of the control module
Context	platform trust secure-boot control slot *string* update serial-number *string*
Tree	serial-number
Configurable	True
Platforms	7250 IXR-10e, 7250 IXR-6e

16 tools qos

```
qos
+  classifiers
   +  multifield
      +  ipv4-policy name string
      +  ipv6-policy name string
      +  multifield-classifier name string type keyword
```

16.1 qos Descriptions

qos

Description	Enter the qos context
Context	qos
Tree	qos
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

classifiers

Description	Top level enclosing container for qos classifiers operational tools
Context	qos classifiers
Tree	classifiers
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

multifield

Description	Top level enclosing container for qos multifield classifiers operational tools
Context	qos classifiers multifield
Tree	multifield
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

ipv4-policy name *string*

Description	List of IPv4 policies
Context	qos classifiers multifield ipv4-policy name *string*
Tree	ipv4-policy
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

name *string*

Description	Name of the IPv4 policy.
Context	qos classifiers multifield ipv4-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

ipv6-policy name *string*

Description	List of IPv6 policies
Context	qos classifiers multifield ipv6-policy name *string*
Tree	ipv6-policy
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

name *string*

Description	Name of the IPv6 policy.
Context	qos classifiers multifield ipv6-policy name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

multifield-classifier name *string* type *keyword*

Description	List of multifield-classifier QoS policies
Context	qos classifiers multifield multifield-classifier name *string* type *keyword*
Tree	multifield-classifier
Configurable	True
Platforms	Supported on all platforms except 7220 IXR-D1

name *string*

Description	The name of multifield-classifier QoS policy
Context	qos classifiers multifield multifield-classifier name *string* type *keyword*
String Length	1 to 255

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

type *keyword*

Description Type of the QoS multifield-classifier

Context qos classifiers multifield multifield-classifier name *string* type *keyword*

Options

- ipv4
  Multifield-classifier using ipv4-based matching criteria
- ipv6
  Multifield-classifier using ipv6-based matching criteria

Configurable True

Platforms Supported on all platforms except 7220 IXR-D1

17 tools system

```
system
+  aaa
   +  authentication
      +  force-all-user-password-change
      +  session id number
         +  disconnect
      +  user username string
         +  force-password-change
         +  unlock
+  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
      +  validation-check keyword
+  dhcp-relay
   +  update-dns-entries
+  dhcp-server
   +  network-instance name string
      +  dhcpv4
         +  statistics
            +  clear
```

```
      +  dhcpv6
         +  statistics
            +  clear
+  event-handler
   +  instance name string
      +  reload
      +  statistics
         +  clear
+  gnmi-server
   +  client id number
      +  disconnect
+  gnoi
   +  healthz
      +  chassis
         +  clear
      +  clear
      +  control
         +  clear
         +  slot string
      +  fabric
         +  clear
         +  slot number
      +  fan-tray
         +  clear
         +  id number
      +  linecard
         +  clear
         +  slot number
      +  power-supply
         +  clear
         +  id number
      +  transceiver
         +  clear
         +  interface string
+  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
+  mirroring
   +  mirroring-instance name string
      +  mirror-destination
         +  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
   +  server-profile name string
```

17.1 system Descriptions

system

Description	Enclosing container for system management.
Context	system
Tree	system
Configurable	True
Platforms	Supported on all platforms

aaa

Description	Top-level container for operational commands related to AAA
Context	system aaa
Tree	aaa
Configurable	True
Platforms	Supported on all platforms

authentication

Description	Operational commands related to authentication
Context	system aaa authentication
Tree	authentication
Configurable	True
Platforms	Supported on all platforms

force-all-user-password-change

Description	Set change-on-first-login to true for all users This command will only take effect if the feature change-on-first-login is currently set to true.
Context	system aaa authentication force-all-user-password-change
Tree	force-all-user-password-change
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

session id *number*

Description	List of active sessions in the system
Context	system aaa authentication session id *number*
Tree	session
Configurable	True
Platforms	Supported on all platforms

id *number*

Description	System generated session ID
Context	system aaa authentication session id *number*
Configurable	True
Platforms	Supported on all platforms

disconnect

Description	Disconnect the cli session, requesting the cli to terminate
Context	system aaa authentication session id *number* disconnect
Tree	disconnect
Configurable	True
Platforms	Supported on all platforms

user username *string*

Description	List of local users including admin and linuxadmin
Context	system aaa authentication user username *string*
Tree	user
Configurable	True
Platforms	Supported on all platforms

username *string*

Description	Enter the username context
Context	system aaa authentication user username *string*
Configurable	True
Platforms	Supported on all platforms

force-password-change

Description	Set change-on-first-login to true for this user This command will only take effect if the feature change-on-first-login is currently set to true.
Context	system aaa authentication user username *string* force-password-change
Tree	force-password-change
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

unlock

Description	Unlock the user, This will change its lockout state into false
Context	system aaa authentication user username *string* unlock
Tree	unlock
Configurable	True
Platforms	Supported on all platforms

app-management

Description	Operational commands related to app-management
Context	system app-management
Tree	app-management
Configurable	True
Platforms	Supported on all platforms

application name *string*

Description	List of all applications managed by the application manager
Context	system app-management application name *string*
Tree	application
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Unique name of this application instance
Context	system app-management application name *string*
Configurable	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.
Context	system app-management application name *string* restart
Tree	restart
Configurable	True
Platforms	Supported on all platforms

cold

Description	Perform a cold restart of the application instance
Context	system app-management application name *string* restart cold
Tree	cold
Configurable	True
Platforms	Supported on all platforms

warm

Description	Perform a warm restart of the application instance
Context	system app-management application name *string* restart warm
Tree	warm
Configurable	True
Platforms	Supported on all platforms

start

Description	Start the application instance

Context	system app-management application name *string* start
Tree	start
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Top-level grouping of operational commands related to application statistics
Context	system app-management application name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear statistics for this application instance
Context	system app-management application name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

stop

Description	Terminate the application instance gracefully
Context	system app-management application name *string* stop
Tree	stop
Configurable	True
Platforms	Supported on all platforms

boot

Description	Top-level container for operational commands related to booting the system
Context	system boot
Tree	boot
Configurable	True
Platforms	Supported on all platforms

golden-image

Description Container for operational commands related to golden image

Context system boot golden-image

Tree golden-image

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description Unset the golden-image

Context system boot golden-image clear

Tree clear

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

image *string*

Description 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.

Context system boot golden-image image *string*

Tree image

String Length 1 to 255

Configurable True

Platforms 7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

cgroup

Description Top-level container for query commands related to cgroup in the system

Context system cgroup

Tree	cgroup
Configurable	True
Platforms	Supported on all platforms

configuration

Description	Top-level container for operational commands related to the system configuration
Context	system configuration
Tree	configuration
Configurable	True
Platforms	Supported on all platforms

candidate name *string*

Description	List of configuration candidates currently active
Context	system configuration candidate name *string*
Tree	candidate
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	The name of the candidate
Context	system configuration candidate name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear the candidate from the system, discarding any changes This results in any users currently in the candidate being dropped back to running mode.
Context	system configuration candidate name *string* clear
Tree	clear

Configurable	True
Platforms	Supported on all platforms

checkpoint id *(number | checkpoint-name)*

Description	List of current checkpoints present in the system
Context	system configuration checkpoint id *(number | checkpoint-name)*
Tree	checkpoint
Configurable	True
Platforms	Supported on all platforms

id *(number | checkpoint-name)*

Description	System generated ID, or operator defined name for the checkpoint
Context	system configuration checkpoint id *(number | checkpoint-name)*
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear the checkpoint from the system
Context	system configuration checkpoint id *(number | checkpoint-name)* clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

load

Description	Load candidate from saved checkpoint configuration
Context	system configuration checkpoint id *(number | checkpoint-name)* load
Tree	load
Configurable	True
Platforms	Supported on all platforms

revert

Description	Revert running system configuration to the saved checkpoint configuration This functions as a load and commit action.
Context	system configuration checkpoint id *(number | checkpoint-name)* revert
Tree	revert
Configurable	True
Platforms	Supported on all platforms

confirmed-accept

Description	Accepts an in progress commit and stops the confirmation timer
Context	system configuration confirmed-accept
Tree	confirmed-accept
Configurable	True
Platforms	Supported on all platforms

confirmed-reject

Description	Rejects an in progress commit and stops the confirmation timer
Context	system configuration confirmed-reject
Tree	confirmed-reject
Configurable	True
Platforms	Supported on all platforms

generate-checkpoint

Description	Generate a checkpoint point based on the current running configuration
Context	system configuration generate-checkpoint
Tree	generate-checkpoint
Configurable	True
Platforms	Supported on all platforms

comment *string*

Description	User provided comment to associate with the checkpoint

Context	system configuration generate-checkpoint comment *string*
Tree	comment
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	User provided name of the checkpoint
Context	system configuration generate-checkpoint name *string*
Tree	name
Configurable	True
Platforms	Supported on all platforms

rescue-clear

Description	Remove rescue configuration
Context	system configuration rescue-clear
Tree	rescue-clear
Configurable	True
Platforms	Supported on all platforms

rescue-save

Description	Save current running configuration as rescue configuration - rescue-config.json
Context	system configuration rescue-save
Tree	rescue-save
Configurable	True
Platforms	Supported on all platforms

save

Description	Save current running configuration as initial (startup) configuration - config.json
Context	system configuration save
Tree	save

Configurable	True
Platforms	Supported on all platforms

session id *number*

Description	List of configuration sessions currently active
Context	system configuration session id *number*
Tree	session
Configurable	True
Platforms	Supported on all platforms

id *number*

Description	System generated ID for the configuration session
Context	system configuration session id *number*
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear the session from the system, discarding any changes
Context	system configuration session id *number* clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

upgrade

Description	Operational commands related to configuration upgrade
Context	system configuration upgrade
Tree	upgrade
Configurable	True
Platforms	Supported on all platforms

checkpoint id *(number | checkpoint-name)*

Description	List of configuration checkpoints
Context	system configuration upgrade checkpoint id *(number | checkpoint-name)*
Tree	checkpoint
Configurable	True
Platforms	Supported on all platforms

id *(number | checkpoint-name)*

Description	System generated ID, or operator defined name for the checkpoint
Context	system configuration upgrade checkpoint id *(number | checkpoint-name)*
Configurable	True
Platforms	Supported on all platforms

file *string*

Description	System file path to a json configuration file
Context	system configuration upgrade file *string*
Tree	file
Configurable	True
Platforms	Supported on all platforms

rescue

Description	Rescue configuration
Context	system configuration upgrade rescue
Tree	rescue
Configurable	True
Platforms	Supported on all platforms

startup

Description	Startup (initial) configuration
Context	system configuration upgrade startup
Tree	startup
Configurable	True

Platforms Supported on all platforms

validation-check *keyword*

Description Specifies the kind of validation that will be executed after the content is upgraded

If the validation fails the upgraded content will not be persisted.

Context system configuration upgrade validation-check *keyword*

Tree validation-check

Default replace

Options

- skip

  Skip validation of the upgraded content

- merge

  Validation is done as if the content was used in a load merge operation

- replace

  Validation is done as if the content was used in a full config replace operation

Configurable True

Platforms Supported on all platforms

dhcp-relay

Description Enable the dhcp-relay context

Context system dhcp-relay

Tree dhcp-relay

Configurable True

Platforms Supported on all platforms

update-dns-entries

Description Update all dhcp-relay server domain name resolutions

A server host entry that cannot be resolved will be unavailable until it can be successfully resolved.

Context system dhcp-relay update-dns-entries

Tree update-dns-entries

Configurable True

Platforms	Supported on all platforms

dhcp-server

Description	Enable the dhcp-server context
Context	system dhcp-server
Tree	dhcp-server
Configurable	True
Platforms	Supported on all platforms

network-instance name *string*

Description	List of network instances to run a dhcp server in
Context	system dhcp-server network-instance name *string*
Tree	network-instance
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Network Instance
Context	system dhcp-server network-instance name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

dhcpv4

Description	Enter the dhcpv4 context
Context	system dhcp-server network-instance name *string* dhcpv4
Tree	dhcpv4
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	system dhcp-server network-instance name *string* dhcpv4 statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Enter the clear context
Context	system dhcp-server network-instance name *string* dhcpv4 statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

dhcpv6

Description	Enter the dhcpv6 context
Context	system dhcp-server network-instance name *string* dhcpv6
Tree	dhcpv6
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Enter the statistics context
Context	system dhcp-server network-instance name *string* dhcpv6 statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Enter the clear context
Context	system dhcp-server network-instance name *string* dhcpv6 statistics clear
Tree	clear

Configurable	True
Platforms	Supported on all platforms

event-handler

Description	Top-level container for operational commands on event handler and event handling instances
Context	system event-handler
Tree	event-handler
Configurable	True
Platforms	Supported on all platforms

instance name *string*

Description	List of all event handler instances
Context	system event-handler instance name *string*
Tree	instance
Configurable	True
Platforms	Supported on all platforms
Max. Elements	20

name *string*

Description	A user-defined name for this event handler instance
Context	system event-handler instance name *string*
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

reload

Description	Reload the Python script for this event handler instance
Context	system event-handler instance name *string* reload
Tree	reload
Configurable	True
Platforms	Supported on all platforms

statistics

Description	Top-level container for operational commands on event handler statistics
Context	system event-handler instance name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear statistics for this event handler instance
Context	system event-handler instance name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

gnmi-server

Description	Tools relating to the gNMI service
Context	system gnmi-server
Tree	gnmi-server
Configurable	True
Platforms	Supported on all platforms

client id *number*

Description	List of active gNMI client sessions
Context	system gnmi-server client id *number*
Tree	client
Configurable	True
Platforms	Supported on all platforms

id *number*

Description	System generated ID for for the client
Context	system gnmi-server client id *number*

Range	0 to 4294967295
Configurable	True
Platforms	Supported on all platforms

disconnect

Description	Disconnect this client from the server
Context	system gnmi-server client id *number* disconnect
Tree	disconnect
Configurable	True
Platforms	Supported on all platforms

gnoi

Description	Top-level container for operational commands related to gNOI
Context	system gnoi
Tree	gnoi
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

healthz

Description	gNOI Healthz tools commands
Context	system gnoi healthz
Tree	healthz
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

chassis

Description	Chassis component
Context	system gnoi healthz chassis
Tree	chassis

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component
Context	system gnoi healthz chassis clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear all healthz events
Context	system gnoi healthz clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

control

Description	Control module component
Context	system gnoi healthz control
Tree	control
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component

Context	system gnoi healthz control clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *string*

Description	Slot identifier for the control module
Context	system gnoi healthz control slot *string*
Tree	slot
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fabric

Description	Fabric module component
Context	system gnoi healthz fabric
Tree	fabric
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component
Context	system gnoi healthz fabric clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *number*

Description	Numeric identifier for the fabric module
Context	system gnoi healthz fabric slot *number*
Tree	slot
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

fan-tray

Description	Fan component
Context	system gnoi healthz fan-tray
Tree	fan-tray
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component
Context	system gnoi healthz fan-tray clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	Numeric identifier for the fan module
Context	system gnoi healthz fan-tray id *number*
Tree	id
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

linecard

Description	Line card component
Context	system gnoi healthz linecard
Tree	linecard
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component
Context	system gnoi healthz linecard clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

slot *number*

Description	Numeric identifier for the line card
Context	system gnoi healthz linecard slot *number*
Tree	slot
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

power-supply

Description	Power supply component
Context	system gnoi healthz power-supply
Tree	power-supply
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component
Context	system gnoi healthz power-supply clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	Numeric identifier for the power supply module
Context	system gnoi healthz power-supply id *number*
Tree	id
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

transceiver

Description	Transceiver component
Context	system gnoi healthz transceiver
Tree	transceiver
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

clear

Description	Clear healthz events for this component
Context	system gnoi healthz transceiver clear

Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *string*

Description	Interface name for the transceiver module
Context	system gnoi healthz transceiver interface *string*
Tree	interface
String Length	1 to 255
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

gribi-server

Description	Tools relating to the gRPC Routing Information Base Interface (gRIBI) service
Context	system gribi-server
Tree	gribi-server
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

client id *number*

Description	List of active gRIBI client sessions
Context	system gribi-server client id *number*
Tree	client
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	System generated ID for for the client

Context	system gribi-server client id *number*
Range	0 to 4294967295
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

disconnect

Description	Disconnect this client from the server
Context	system gribi-server client id *number* disconnect
Tree	disconnect
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

l2cp-transparency

Description	Enable the l2cp-transparency context
Context	system l2cp-transparency
Tree	l2cp-transparency
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

dot1x

Description	Enter the dot1x context
Context	system l2cp-transparency dot1x
Tree	dot1x
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Clears the statistics for the 802.1x Port based Network Access Control protocol.
Context	system l2cp-transparency dot1x clear
Tree	clear

Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

l2cp-total-statistics

Description	Enter the l2cp-total-statistics context
Context	system l2cp-transparency l2cp-total-statistics
Tree	l2cp-total-statistics
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Clears the global statistics for the L2CP protocols.
Context	system l2cp-transparency l2cp-total-statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lacp

Description	Enter the lacp context
Context	system l2cp-transparency lacp
Tree	lacp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Clears the statistics for Link Aggregation Control Protocol.
Context	system l2cp-transparency lacp clear
Tree	clear
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lldp

Description	Enter the lldp context
Context	system l2cp-transparency lldp
Tree	lldp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Clears the statistics for Link Layer Discovery Protocol.
Context	system l2cp-transparency lldp clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ptp

Description	Enter the ptp context
Context	system l2cp-transparency ptp
Tree	ptp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Clears the statistics for the Precision Time Protocol .
Context	system l2cp-transparency ptp clear
Tree	clear
Configurable	True

Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

xstp

Description	Enter the xstp context
Context	system l2cp-transparency xstp
Tree	xstp
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Clears the statistics for all the Spanning Tree Protocols.
Context	system l2cp-transparency xstp clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

lldp

Description	Top-level container for LLDP tools
Context	system lldp
Tree	lldp
Configurable	True
Platforms	Supported on all platforms

interface name *string*

Description	List of interfaces on which LLDP is enabled
Context	system lldp interface name *string*
Tree	interface
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Reference to a LLDP Ethernet interface
Context	system lldp interface name *string*
Configurable	True
Platforms	Supported on all platforms

statistics

Description	LLDP interface statistics tools commands
Context	system lldp interface name *string* statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear interface LLDP statistics
Context	system lldp interface name *string* statistics clear
Tree	clear
Configurable	True
Platforms	Supported on all platforms

statistics

Description	LLDP global statistics tools commands
Context	system lldp statistics
Tree	statistics
Configurable	True
Platforms	Supported on all platforms

clear

Description	Clear global LLDP statistics
Context	system lldp statistics clear
Tree	clear

Configurable	True
Platforms	Supported on all platforms

mirroring

Description	Enter the mirroring context
Context	system mirroring
Tree	mirroring
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

mirroring-instance name *string*

Description	Enter the mirroring-instance list instance
Context	system mirroring mirroring-instance name *string*
Tree	mirroring-instance
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

name *string*

Description	A unique name identifying the mirroring instance
Context	system mirroring mirroring-instance name *string*
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

mirror-destination

Description	Configure mirror destination
Context	system mirroring mirroring-instance name *string* mirror-destination
Tree	mirror-destination
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

statistics

Description	Enter the statistics context
Context	system mirroring mirroring-instance name *string* mirror-destination statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

clear

Description	Enter the clear context
Context	system mirroring mirroring-instance name *string* mirror-destination statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D4, 7220 IXR-D5, 7250 IXR-10e, 7250 IXR-6e

p4rt-server

Description	Tools relating to the P4Runtime service
Context	system p4rt-server
Tree	p4rt-server
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

client id *number*

Description	List of active P4Runtime client sessions
Context	system p4rt-server client id *number*
Tree	client
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

id *number*

Description	System generated ID for for the client
Context	system p4rt-server client id *number*

Range	0 to 4294967295
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

disconnect

Description	Disconnect this client from the server
Context	system p4rt-server client id *number* disconnect
Tree	disconnect
Configurable	True
Platforms	7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

packet-trace-base64

Description	Tools command to report the forwarding behavior for a specified test packet (packet specified in base64 format)
Context	system packet-trace-base64
Tree	packet-trace-base64
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

interface *string*

Description	References the configured name of the interface in which to inject the probe packet
Context	system packet-trace-base64 interface *string*
Tree	interface
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

packet *binary*

Description	Packet content encoded in base64 string format
Context	system packet-trace-base64 packet *binary*

Tree	packet
Configurable	True
Platforms	7220 IXR-D1, 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-H2, 7220 IXR-H3, 7220 IXR-H4, 7250 IXR-10, 7250 IXR-10e, 7250 IXR-6, 7250 IXR-6e

sync

Description	Top-level grouping for sync operational commands
Context	system sync
Tree	sync
Configurable	True
Platforms	7220 IXR-D5

ptp

Description	Grouping for ptp operational commands
Context	system sync ptp
Tree	ptp
Configurable	True
Platforms	7220 IXR-D5

instance instance-number *number*

Description	Grouping for PTP instance operational commands
Context	system sync ptp instance instance-number *number*
Tree	instance
Configurable	True
Platforms	7220 IXR-D5

instance-number *number*

Description	Enter the instance-number context
Context	system sync ptp instance instance-number *number*
Range	1 to 10
Configurable	True

Platforms	7220 IXR-D5

default-ds

Description	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
Context	system sync ptp instance instance-number *number* default-ds
Tree	default-ds
Configurable	True
Platforms	7220 IXR-D5

statistics

Description	Enter the statistics context
Context	system sync ptp instance instance-number *number* default-ds statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D5

clear

Description	Clears PTP statistics and event counters in the default-ds
Context	system sync ptp instance instance-number *number* default-ds statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D5

time-recovery-engine

Description	Enter the time-recovery-engine context
Context	system sync ptp instance instance-number *number* default-ds time-recovery-engine
Tree	time-recovery-engine
Configurable	True
Platforms	7220 IXR-D5

statistics

Description	Enter the statistics context
Context	system sync ptp instance instance-number *number* default-ds time-recovery-engine statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D5

clear

Description	Clears all PTP statistics for PTP time recovery engine
Context	system sync ptp instance instance-number *number* default-ds time-recovery-engine statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D5

ptp-port-ds port-number *number*

Description	Grouping for PTP Port DS operational commands
Context	system sync ptp instance instance-number *number* ptp-port-ds port-number *number*
Tree	ptp-port-ds
Configurable	True
Platforms	7220 IXR-D5

port-number *number*

Description	Enter the port-number context
Context	system sync ptp instance instance-number *number* ptp-port-ds port-number *number*
Configurable	True
Platforms	7220 IXR-D5

statistics

Description	Enter the statistics context

Context	system sync ptp instance instance-number *number* ptp-port-ds port-number *number* statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D5

clear

Description	Clears all PTP statistics for this PTP Port DS
Context	system sync ptp instance instance-number *number* ptp-port-ds port-number *number* statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D5

statistics

Description	Enter the statistics context
Context	system sync ptp statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D5

clear

Description	Clears all PTP statistics for PTP
Context	system sync ptp statistics clear
Tree	clear
Configurable	True
Platforms	7220 IXR-D5

tls

Description	Top-level container for operational commands related to TLS
Context	system tls
Tree	tls

Configurable	True
Platforms	Supported on all platforms

generate-csr

Description	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.
Context	system tls generate-csr
Tree	generate-csr
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-csr 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-csr country *string*
Tree	country
String Length	2
Default	US
Configurable	True
Platforms	Supported on all platforms

domain-names *string*

Description	Domain names to add to the SubjectAlternativeName field within the certificate signing request These names are encoeded as DNS:<name> within the certificate SAN.
Context	system tls generate-csr domain-names *string*
Tree	domain-names
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

email *string*

Description	The email address to use for the certificate signing request
Context	system tls generate-csr email *string*
Tree	email
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

ip-addresses *(ipv4-address | ipv6-address)*

Description	IP addresses to add to the SubjectAlternativeName field within the certificate signing request These addresses are encoded as IP:<ip> within the certificate SAN.
Context	system tls generate-csr ip-addresses *(ipv4-address | ipv6-address)*
Tree	ip-addresses
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

key-size *number*

Description	The size of the private key to generate for the certificate signing request
Context	system tls generate-csr key-size *number*
Tree	key-size

Range	1024 to 16384
Default	4096
Configurable	True
Platforms	Supported on all platforms

key-type *keyword*

Description	The type of private key to generate for the certificate signing request
Context	system tls generate-csr key-type *keyword*
Tree	key-type
Default	rsa
Options	• rsa
Configurable	True
Platforms	Supported on all platforms

locality *string*

Description	The city or locality to use for the certificate signing request
Context	system tls generate-csr locality *string*
Tree	locality
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

organization *string*

Description	The organization to use for the certificate signing request
Context	system tls generate-csr organization *string*
Tree	organization
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

organization-unit *string*

Description	The organization unit to use for the certificate signing request
Context	system tls generate-csr organization-unit *string*
Tree	organization-unit
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

spiffe-id *string*

Description	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'.
Context	system tls generate-csr spiffe-id *string*
Tree	spiffe-id
Configurable	True
Platforms	Supported on all platforms

state *string*

Description	The state or province to use for the certificate signing request
Context	system tls generate-csr state *string*
Tree	state
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

type *keyword*

Description	The type of certificate to use for the certificate signing request
Context	system tls generate-csr type *keyword*
Tree	type
Default	x509
Options	• x509
Configurable	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*

Description	Domain names to add to the SubjectAlternativeName field within the certificate signing request These names are encoeded as DNS:<name> within the certificate SAN.
Context	system tls generate-self-signed domain-names *string*
Tree	domain-names
String Length	1 to 253
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

duration *number*

Description	The time in which the certificate is valid
Context	system tls generate-self-signed duration *number*
Tree	duration
Range	1 to 3650
Default	365
Units	days
Configurable	True
Platforms	Supported on all platforms

email *string*

Description	The email address to use for the certificate signing request
Context	system tls generate-self-signed email *string*
Tree	email
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

ip-addresses *(ipv4-address | ipv6-address)*

Description	IP addresses to add to the SubjectAlternativeName field within the certificate signing request These addresses are encoded as IP:<ip> within the certificate SAN.

Context	system tls generate-self-signed ip-addresses *(ipv4-address | ipv6-address)*
Tree	ip-addresses
Configurable	True
Platforms	Supported on all platforms
Max. Elements	32

key-size *number*

Description	The size of the private key to generate for the certificate signing request
Context	system tls generate-self-signed key-size *number*
Tree	key-size
Range	1024 to 16384
Default	4096
Configurable	True
Platforms	Supported on all platforms

key-type *keyword*

Description	The type of private key to generate for the certificate signing request
Context	system tls generate-self-signed key-type *keyword*
Tree	key-type
Default	rsa
Options	• rsa
Configurable	True
Platforms	Supported on all platforms

locality *string*

Description	The city or locality to use for the certificate signing request
Context	system tls generate-self-signed locality *string*
Tree	locality
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

organization *string*

Description	The organization to use for the certificate signing request
Context	system tls generate-self-signed organization *string*
Tree	organization
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

organization-unit *string*

Description	The organization unit to use for the certificate signing request
Context	system tls generate-self-signed organization-unit *string*
Tree	organization-unit
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

spiffe-id *string*

Description	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'.
Context	system tls generate-self-signed spiffe-id *string*
Tree	spiffe-id
Configurable	True
Platforms	Supported on all platforms

state *string*

Description	The state or province to use for the certificate signing request
Context	system tls generate-self-signed state *string*
Tree	state
String Length	1 to 255
Configurable	True
Platforms	Supported on all platforms

type *keyword*

Description	The type of certificate to use for the certificate signing request
Context	system tls generate-self-signed type *keyword*
Tree	type
Default	x509
Options	• x509
Configurable	True
Platforms	Supported on all platforms

server-profile name *string*

Description	Enter the server-profile list instance
Context	system tls server-profile name *string*
Tree	server-profile
Configurable	True
Platforms	Supported on all platforms

name *string*

Description	Name of the TLS server-profile
Context	system tls server-profile name *string*
String Length	1 to 247
Configurable	True
Platforms	Supported on all platforms

18 tools tunnel

```
tunnel
+  vxlan-tunnel
   +  statistics
      +  clear
   +  vtep address (ipv4-address | ipv6-address)
      +  statistics
         +  clear
```

18.1 tunnel Descriptions

tunnel

Description	This model collects all config and state aspects of the tools-tunnel table in SRLinux.
Context	tunnel
Tree	tunnel
Configurable	True
Platforms	Supported on all platforms

vxlan-tunnel

Description	Enter the vxlan-tunnel context
Context	tunnel vxlan-tunnel
Tree	vxlan-tunnel
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Enter the statistics context
Context	tunnel vxlan-tunnel statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

clear

Description	Enter the clear context
Context	tunnel vxlan-tunnel statistics clear
Tree	clear
Configurable	True

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

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

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

statistics

Description	Enter the statistics context
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* statistics
Tree	statistics
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

19 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
         -  multicast-limit
            -  current-usage number
            -  maximum-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
      -  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
```

19.1 tunnel-interface Descriptions

tunnel-interface name *string*

Description	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.
Context	tunnel-interface name *string*
Tree	tunnel-interface
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

name *string*

Description	The name of the tunnel-interface. Valid options are: vxlan<N>, N=0..255
Context	tunnel-interface name *string*
String Length	6 to 8
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vxlan-interface index *number*

Description	The list of vxlan-interfaces.
Context	tunnel-interface name *string* vxlan-interface index *number*
Tree	vxlan-interface
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5
Max. Elements	16384

index *number*

Description	The index of the vxlan-tunnel.

Context	tunnel-interface name *string* vxlan-interface index *number*
Range	0 to 99999999
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

bridge-table

Description	Enable the bridge-table context
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table
Tree	bridge-table
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

multicast-destinations

Description	Enter the multicast-destinations context
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations
Tree	multicast-destinations
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination vtep *(ipv4-address | ipv6-address)* vni *number*

Description	Enter the destination list instance
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number*
Tree	destination
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vtep *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vni *number*

Description	VXLAN Network Identifier of the destination.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number*
Range	1 to 16777215
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-index *number*

Description	A system-wide unique identifier of this vxlan destination object (system allocated).
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number* destination-index *number*
Tree	destination-index
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

multicast-forwarding *keyword*

Description	The type of multicast data forwarded by this vxlan destination.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number* multicast-forwarding *keyword*

Tree	multicast-forwarding
Options	• none • BUM • unknown-unicast • broadcast-mcast
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

not-programmed-reason *keyword*

Description	The reason why the destination is not programmed in the floodlist
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number* not-programmed-reason *keyword*
Tree	not-programmed-reason
Options	• no-destination-index • multicast-limit
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

multicast-limit

Description	Multicast limits per vxlan interface.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations multicast-limit
Tree	multicast-limit
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

current-usage *number*

Description	Maximum number of multicast vxlan-destinations in use on this vxlan-interface.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations multicast-limit current-usage *number*

Tree	current-usage
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

maximum-entries *number*

Description	Maximum number of multicast vxlan-destinations allowed on a vxlan-interface.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table multicast-destinations multicast-limit maximum-entries *number*
Tree	maximum-entries
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Enter the statistics context
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

active-entries *number*

Description	The total number of entries that are active on the sub-interface.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table statistics active-entries *number*
Tree	active-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

failed-entries *number*

Description The total number of macs, which have not been programmed on at least one slot

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table statistics failed-entries *number*

Tree failed-entries

Default 0

Configurable False

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

mac-type type *keyword*

Description The type of the mac on the sub-interface.

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table statistics mac-type type *keyword*

Tree mac-type

Configurable False

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

type *keyword*

Description Enter the type context

Context tunnel-interface name *string* vxlan-interface index *number* 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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*
Tree	total-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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 statistics total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

unicast-destinations

Description	Enter the unicast-destinations context
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations
Tree	unicast-destinations
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination vtep *(ipv4-address | ipv6-address)* vni *number*

Description	Enter the destination list instance
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number*
Tree	destination
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vtep *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number*

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vni *number*

Description	VXLAN Network Identifier of the destination.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number*
Range	1 to 16777215
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

destination-index *number*

Description	A system-wide unique identifier of this vxlan destination object (system allocated).
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number* destination-index *number*
Tree	destination-index
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-table

Description	Enter the mac-table context
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number* mac-table
Tree	mac-table
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac address *string*

Description	macs learnt on the bridging instance
Context	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*
Tree	mac
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *string*

Description	Enter the address context
Context	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*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

failed-slots *number*

Description	The list of slot IDs corresponding to the linecards that did not successfully program the mac
Context	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*
Tree	failed-slots
Range	1 to 8
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this mac
Context	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* last-update *string*

Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

not-programmed-reason *keyword*

Description	The reason why the mac is not programmed
Context	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* not-programmed-reason *keyword*
Tree	not-programmed-reason
Options	• mac-limit • failed-on-slots • no-destination-index • reserved
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	the type of the mac installed in the fib.
Context	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* type *keyword*
Tree	type
Options	• static • duplicate • learnt • irb-interface • evpn • evpn-static • irb-interface-anycast • proxy-anti-spoof • reserved

- eth-cfm

Configurable False

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

statistics

Description Enter the statistics context

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations destination vtep *(ipv4-address | ipv6-address)* vni *number* statistics

Tree statistics

Configurable False

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

active-entries *number*

Description The total number of entries that are active 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 active-entries *number*

Tree active-entries

Default 0

Configurable False

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

failed-entries *number*

Description The total number of macs, 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 failed-entries *number*

Tree failed-entries

Default 0

Configurable False

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

mac-type type *keyword*

Description the type of the mac 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*

Tree mac-type

Configurable False

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

type *keyword*

Description Enter the type context

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*

Options

- static
- duplicate
- learnt
- irb-interface
- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

Configurable False

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

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

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

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

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

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

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

destination-index *number*

Description	A system-wide unique identifier of this vxlan destination object (system allocated).
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* destination-index *number*
Tree	destination-index
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-table

Description Enter the mac-table context

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table

Tree mac-table

Configurable False

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

mac address *string*

Description macs learnt on the bridging instance

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table mac address *string*

Tree mac

Configurable False

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

address *string*

Description Enter the address context

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table mac address *string*

Configurable False

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

failed-slots *number*

Description The list of slot IDs corresponding to the linecards that did not successfully program the mac

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table mac address *string* failed-slots *number*

Tree failed-slots

Range 1 to 8

Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-update *string*

Description	The date and time of the last update of this mac
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table mac address *string* last-update *string*
Tree	last-update
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

not-programmed-reason *keyword*

Description	The reason why the mac is not programmed
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table mac address *string* not-programmed-reason *keyword*
Tree	not-programmed-reason
Options	• mac-limit • failed-on-slots • no-destination-index • reserved
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	the type of the mac installed in the fib.
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* mac-table mac address *string* type *keyword*
Tree	type

Options
- static
- duplicate
- learnt
- irb-interface
- evpn
- evpn-static
- irb-interface-anycast
- proxy-anti-spoof
- reserved
- eth-cfm

Configurable False

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

statistics

Description Enter the statistics context

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* statistics

Tree statistics

Configurable False

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

active-entries *number*

Description The total number of entries that are active on the sub-interface.

Context tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* statistics active-entries *number*

Tree active-entries

Default 0

Configurable False

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

failed-entries *number*

Description	The total number of macs, 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 failed-entries *number*
Tree	failed-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

mac-type type *keyword*

Description	the type of the mac 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*
Tree	mac-type
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

type *keyword*

Description	Enter the type context
Context	tunnel-interface name *string* vxlan-interface index *number* bridge-table unicast-destinations es-destination esi *string* 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-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

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

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 es-destination esi *string* statistics mac-type type *keyword* total-entries *number*
Tree	total-entries
Default	0
Configurable	False

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

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 es-destination esi *string* statistics total-entries *number*
Tree	total-entries
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vtep address *(ipv4-address | ipv6-address)* vni *number*

Description	Add a list entry for vtep
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*
Tree	vtep
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

address *(ipv4-address | ipv6-address)*

Description	The IP address that identifies the remote VXLAN Termination Endpoint (VTEP).
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*
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

egress

Description	Enter the egress context
Context	tunnel-interface name *string* vxlan-interface index *number* egress
Tree	egress
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

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

source-mac *keyword*

Description	VXLAN inner ethernet source mac-address. Present when the VXLAN tunnel is associated with a ip-vrf network-instance.
Context	tunnel-interface name *string* vxlan-interface index *number* egress inner-ethernet-header source-mac *keyword*
Tree	source-mac
Default	use-system-mac
Options	• use-system-mac
Configurable	True

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

used-source-mac *string*

Description	VXLAN inner ethernet source mac-address in use. Present when the VXLAN tunnel is associated with a ip-vrf network-instance.
Context	tunnel-interface name *string* vxlan-interface index *number* egress inner-ethernet-header used-source-mac *string*
Tree	used-source-mac
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

source-ip *keyword*

Description	The ip-address that will be used as the source-ip for all vxlan traffic egressing this vxlan-interface.
Context	tunnel-interface name *string* vxlan-interface index *number* egress source-ip *keyword*
Tree	source-ip
Default	use-system-ipv4-address
Options	• use-system-ipv4-address
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

ingress

Description	Enter the ingress context
Context	tunnel-interface name *string* vxlan-interface index *number* ingress
Tree	ingress
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

vni *number*

Description 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.

Context tunnel-interface name *string* vxlan-interface index *number* ingress vni *number*

Tree vni

Range 1 to 16777215

Configurable True

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

oper-down-reason *keyword*

Description The reason why the vxlan-interface is oper-down

Context tunnel-interface name *string* vxlan-interface index *number* oper-down-reason *keyword*

Tree oper-down-reason

Options

- mac-failed
- ingress-hash-failed
- egress-hash-failed
- other

Configurable False

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

oper-state *keyword*

Description The operational state of the vxlan-interface

Context tunnel-interface name *string* vxlan-interface index *number* oper-state *keyword*

Tree oper-state

Options

- up
- down

Configurable False

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

type *identityref*

Description	The value of this leaf indicates the context in which the vxlan-interface will be used in.
Context	tunnel-interface name *string* vxlan-interface index *number* type *identityref*
Tree	type
Options	• routed Indicates subinterface is used in a routed context • bridged Indicates subinterface is used in a bridged context • local-mirror-dest Indicates subinterface is used in a mirroring destination SPAN context
Configurable	True
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

20 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
```

20.1 tunnel Descriptions

tunnel

Description This model collects all config and state aspects of the tunnel table in SRLinux.

Context tunnel

Tree tunnel

Configurable True

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

vxlan-tunnel

Description Enter the vxlan-tunnel context

Context tunnel vxlan-tunnel

Tree vxlan-tunnel

Configurable True

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

statistics

Description Container for vxlan-tunnel global statistics.

Context tunnel vxlan-tunnel statistics

Tree statistics

Configurable True

Platforms 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

admin-state *keyword*

Description The configured state of the VXLAN statistics on the router

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

also resets the statistic counters on layer-2 subinterfaces as a side effect, before resuming the collection of statistics (on these layer-2 subinterfaces).

Context tunnel vxlan-tunnel statistics admin-state *keyword*

Tree admin-state

Default disable

Options
- enable
- disable

Configurable True

Platforms 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

in-discarded-packets *number*

Description The total number of discarded ingress VXLAN packets.

Ingress VXLAN packets can be discarded due to one of the following reasons:

Context tunnel vxlan-tunnel statistics in-discarded-packets *number*

Tree in-discarded-packets

Default 0

Configurable False

Platforms 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

in-octets *number*

Description The total sum of ingress VXLAN octets.

Context tunnel vxlan-tunnel statistics in-octets *number*

Tree in-octets

Default 0

Configurable False

Platforms 7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

in-packets *number*

Description The total sum of ingress VXLAN packets.

A packet in this context is an inner frame.

Context tunnel vxlan-tunnel statistics in-packets *number*

Tree in-packets

Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

last-clear *string*

Description	Timestamp of the last time the vxlan tunnel counters were cleared.
Context	tunnel vxlan-tunnel statistics last-clear *string*
Tree	last-clear
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

out-octets *number*

Description	The total sum of egress VXLAN octets
Context	tunnel vxlan-tunnel statistics out-octets *number*
Tree	out-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

out-packets *number*

Description	The total sum of egress VXLAN packets. . A packet in this context is an inner frame.
Context	tunnel vxlan-tunnel statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

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

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

index *number*

Description	the next-hop-group-id (system allocated) for resolving the VXLAN termination endpoint
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* index *number*
Tree	index
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

last-change *string*

Description	The date and time of the most recent change to the tunnel state
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* last-change *string*
Tree	last-change
String Length	20 to 32
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L, 7220 IXR-D4, 7220 IXR-D5

statistics

Description	Container for vxlan-tunnel per VTEP (Vxlan Termination EndPoint) statistics.
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* statistics
Tree	statistics
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

in-discarded-packets *number*

Description	The number of discarded ingress VXLAN packets. Ingress VXLAN packets can be discarded due to one of the following reasons:
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* statistics in-discarded-packets *number*
Tree	in-discarded-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

in-octets *number*

Description	The number of octets encapsulated in ingress VXLAN packets.
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* statistics in-octets *number*
Tree	in-octets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

in-packets *number*

Description	The number of packets encapsulated in ingress VXLAN packets. A packet in this context is an inner frame.
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* statistics in-packets *number*
Tree	in-packets

Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

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

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

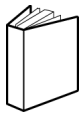
out-octets *number*

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

out-packets *number*

Description	The number of packets encapsulated in egress VXLAN packets. A packet in this context is an inner frame.
Context	tunnel vxlan-tunnel vtep address *(ipv4-address | ipv6-address)* statistics out-packets *number*
Tree	out-packets
Default	0
Configurable	False
Platforms	7220 IXR-D2, 7220 IXR-D2L, 7220 IXR-D3, 7220 IXR-D3L

Customer document and product support



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Customer documentation welcome page

Technical support

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Documentation feedback

Customer documentation feedback